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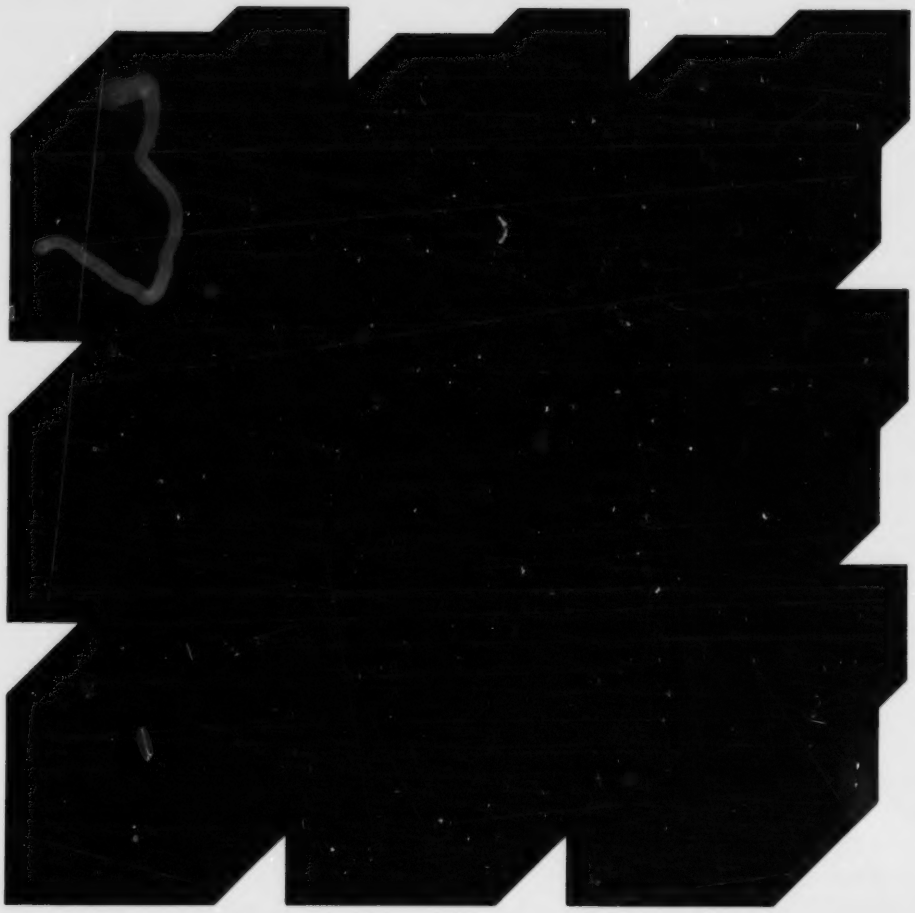

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DISCUSSION PAPER NO. 313

Taxation of Life Insurance in Canada

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RÉSUMÉ

La présente étude porte sur l'un des domaines les plus complexes sur le plan technique, et les plus délicats sur le plan politique, de toute la politique fiscale, soit l'imposition des sociétés d'assurance-vie et de leurs détenteurs de police. La diversité des régimes d'imposition actuellement appliqués dans les différents pays du monde témoigne du manque d'unanimité à ce sujet. Le régime approprié ne paraît pas évident. Au Canada, trois réformes ou propositions de réforme importantes ont été faites au cours des vingt dernières années, et une autre réforme pourrait être bientôt appliquée en vue de corriger certains problèmes touchant les sociétés d'assurance.

Voici les aspects de l'imposition de l'assurance-vie au Canada qu'analyse cette étude :

- la raison d'être ainsi que la formule de calcul des déductions pour réserves mathématiques des sociétés;

- la mise au point de la Loi canadienne sur l'impôt, particulièrement sur les questions techniques telles que la méthode de calcul du gain sur l'annulation d'une police d'assurance-vie, ainsi que le calcul du revenu imposable des sociétés multinationales d'assurance-vie;

° certaines questions fondamentales de politique, comme celle du choix entre l'imposition sur le revenu ou sur les dépenses, celle des stimulants fiscaux pour la propriété d'assurance-vie, ainsi que celle de la nature contractuelle à long terme de l'entreprise de l'assurance-vie;

° l'analyse du marché de l'assurance-vie au Canada, y inclus une analyse de régression des tendances conjoncturelles de la possession d'une police d'assurance-vie ayant valeur de rachat par opposition à une police à terme;

° l'élaboration d'une méthode de mesure des taux d'impôt effectifs de l'assurance-vie au Canada, à l'aide de la méthode King-Fullerton;

° certaines orientations pour une réforme fiscale.

L'étude tente de cerner le problème clé qui se pose du point de vue de l'impôt sur le revenu des particuliers : faut-il imposer le revenu du détenteur de police selon la comptabilité d'exercice ? Elle montre que le fait d'exempter les polices en ne les traitant pas selon la comptabilité d'exercice résulte en un taux d'imposition du revenu d'intérêt qui n'atteint pas plus, en réalité, que le quart du taux statutaire pour les polices annulées par renonciation, et pas plus que la moitié de ce taux pour

celles annulées par décès. L'étude décrit aussi les changements au test d'exemption qui contribueraient à réduire le montant du revenu de placement permis dans le cadre d'une police exempte. Néanmoins, étant donné que la nouvelle formule de calcul aux fins de l'impôt est en vigueur depuis moins de cinq ans, il est peut-être souhaitable de remettre ces changements à plus tard, après une plus longue expérimentation de la nouvelle formule. En outre, certaines questions demeurent encore en suspens au sujet du traitement fiscal approprié pour les régimes d'assurance-vie de groupe et à terme, en tant que substituts de programmes publics de bien-être.

A l'heure actuelle, dans l'assurance-vie, le régime d'imposition des sociétés est fort probablement le domaine le plus susceptible de subir une réforme. La rentrée des impôts de la part des sociétés d'assurance-vie est très réduite, spécialement de la part des multinationales canadiennes. Il faudrait envisager la possibilité d'imposer ces assureurs en fonction de leur revenu mondial, en accordant ensuite un crédit pour l'impôt payé à l'étranger. La formule d'imposition actuelle fondée sur une approximation du revenu canadien de ces sociétés risque d'être irrémédiablement insatisfaisante et impossible à corriger. Il faudra peut-être apporter aussi des changements dans le calcul des réserves mathématiques aux fins de l'impôt.

ABSTRACT

This study examines one of the most technically complex and politically sensitive areas of tax policy—the taxation of life insurance companies and policyholders. The diversity of life insurance tax systems currently applying in different countries testifies to the lack of consensus as to the appropriate system of taxation. In Canada, three major reforms or proposals for reform have been made in the last twenty years and another reform may occur soon to correct problems at the corporate level.

This study investigates the following aspects of life insurance taxation in Canada:

- the mathematical basis, including the purpose and calculation of corporate policy reserve deductions;
- the development of current Canadian tax law, focussing on technical issues such as the measurement of the gain on disposition of a life insurance policy and the calculation of taxable income for multinational life insurers;
- fundamental policy issues, including income vs. expenditure taxation, tax incentives for life insurance ownership, and the long-term nature of the life insurance business;
- analysis of the market for life insurance in Canada, including a regression analysis of the time trend in cash value vs. term insurance;
- the development of a methodology for the measurement of Canadian effective tax rates on life insurance using the King-Fullerton approach; and
- directions for tax reform.

The study identifies the key issue concerning the personal income tax as whether policyholders' income should be taxed on an accrual basis. The failure to tax "exempt" policies on an accrual basis is shown to imply that the rate of tax on interest income earned through life insurance policies is effectively no more than one-quarter of the statutory rate for policies terminated by surrender and no more than one-half of the statutory rate for policies terminated by death. Changes to the exemption test which could reduce the amount of investment income permitted within an exempt policy are identified. However, since the new tax rules have been in effect for less than five years, it may be desirable to delay changes until more experience with the new rules is available. In addition, there are unsettled questions concerning the appropriate tax treatment of group and term life insurance insofar as they are substitutes for public welfare programs.

The corporate tax system for life insurers is more likely the appropriate place for reform at this time. Corporate tax collections from life insurers are very low, especially for Canadian multinational companies. Consideration should be given to taxing life insurers on their world income with a credit for foreign income taxes paid. The present system of taxing such companies only on some proxy for their Canadian income may be hopelessly deficient and impossible to repair. Changes may also be required in the computation of policy reserves for tax purposes.

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Chapter 1

INTRODUCTION

The taxation of life insurance has been a controversial issue in Canada and other countries for many years. In Canada major changes or proposals for change were made in the 1968, 1977 and 1981 budgets. At these times the taxation of life insurance became a political issue of major significance. At the present time it is not a major public issue. However, there is some feeling that the system has still not arrived at a satisfactory compromise between the perceived need to maintain an incentive to encourage life insurance ownership and the need of the government to tax all sources of investment income equitably. On the industry side, some people are seeking to repeal the rules introduced in the November 1981 budget which tax the accrued income in some life insurance policies every three years. On the government side, there may be concern that income tax revenues from life insurance policyholders and companies are too low.

Among the topics not addressed by this study are the many business operations of life insurance companies other than the sale of life insurance policies. These include the pension business and the sale of annuities inside and outside Registered Retirement Savings Plans.

This study investigates a number of policy aspects of the taxation of life insurance companies and policyholders in Canada. Chapter 2 outlines the mathematical basis for life insurance taxation and explains a number of key life insurance concepts. Chapter 3 describes the development of current Canadian tax law affecting life insurance. Chapter 4 discusses a number of basic issues in the taxation of life insurance including income vs. expenditure taxation, tax incentives for life insurance ownership, and the long-term

nature of the life insurance business. Chapter 5 analyzes the market for life insurance in Canada and performs a regression analysis of some of the factors that were responsible for the trend in cash-value and term life insurance. Chapter 6 investigates the the application of the King-Fullerton effective tax rate analysis to life insurance. Chapter 7 discusses some alternatives for tax reform in this area. Chapter 8 is the conclusion.

Chapter 2

THE MATHEMATICAL BASIS OF LIFE INSURANCE TAXATION

2.1 Calculation of Premiums and Policy Reserves

Let q(j) denote the probability that a person who is alive at the beginning of period j will die by the end of that period.

Let a(i,j) denote the probability that a person will survive to the beginning of period i given that the person is alive at the beginning of period j (where j<=i). Therefore a(i,j) is the product

$$a(i,j) = (1-q(j))\ (1-q(j+1))\ldots(1-q(i-1))$$

e.g. i=3, j=1: $a(3,1) = (1-q(1))\ (1-q(2))$

Let d(i,j) denote the probability that a person will die in period i given that the person is alive at the beginning of period j (where j<=i). Therefore d(i,j) is the product

$$d(i,j) = q(i)\ a(i,j)$$

e.g. i=2, j=1: $d(2,1) = q(2)\ a(2,1)$

$$= q(2)\ (1-q(1))$$

Note that

$$d(j,j) = q(j)\ a(j,j)$$

$$= q(j)$$

Assume for purposes of analysis that the life insurance company collects just enough money in premiums to ensure that, when the premiums from a large group of policyhold-

ers are accumulated with interest, there is exactly the required amount of money to pay the death claims as they come due. This implies that at issue the present value of death benefits equals the present value of premiums. Assuming premiums are paid at the beginning of the period and death benefits are paid at the end of the period, this condition can be stated mathematically for a non-participating policy[1] as

$$d(j,j)\,F/(1+r) + d(j+1,j)\,F/(1+r)^2 + \ldots + d(T,j)\,F/(1+r)^{T-j+1}$$

$$= P + a(j+1,j)\,P/(1+r) + a(j+2,j)\,P/(1+r)^2$$

$$+ \ldots + a(T,j)\,P/(1+r)^{T-j}$$

where: j is the age of the person insured under the policy at the time it is issued; F is the face value of the policy; r is the discount rate used by the life insurance company; P is the annual premium; and T is the term of the policy or, in the case of a whole life policy,[2] the maximum age to which a person can possibly live.

The insurer's liability under the policy at any time can be measured by the present value of amounts to be paid out as death benefits less the present value of amounts to be paid in as premiums. This amount is also known as the policy reserve. At the beginning of period i, before the annual premium is paid (or at the end of period i-1), the reserve is:

---

1 A policy is participating if policyholders receive policy dividends, which are distributions of surplus earnings by the life insurance company. Owners of non-participating policies do not receive policy dividends.

2 A whole life policy pays a benefit on the death of the life insured whenever that occurs. A term policy pays a benefit on the death of the life insured provided that death occurs within a specified period of time.

$$R(i) = d(i,i)\,F/(1+r) + d(i+1,i)\,F/(1+r)^2 + \ldots + d(T,i)\,F/(1+r)^{T-i+1}$$
$$- P - a(i+1,i)\,P/(1+r) - a(i+2,i)\,P/(1+r)^2 - \ldots$$
$$- a(T,i)\,P/(1+r)^{T-i}$$

2.2 Company Taxation Example

The mathematical results developed above can now be applied to illustrate important concepts in life insurance taxation.

To illustrate the operation of the rules for the taxation of life insurance companies, it is useful to consider a block of identical policies sold at one point in time and to follow them through the years showing the taxation results. As in the previous section, it is assumed for purposes of analysis that the company receives just enough premiums, and interest income on those premiums, to pay the death claims on the policies as they come due. Thus there should be no taxable income and no loss for any year if the tax system works correctly.

Let us suppose that a 10-payment 15-year endowment policy[3] with a face amount of $1 is issued at age 35 to 9,373,807 people.[4] (The choice of an endowment policy rather than a whole life policy or a term policy is of no consequence as the same results could be produced with any life insurance policy.) The pricing assumptions are 6% interest and the 1958 CSO mortality table.[5] Furthermore, it is assumed that the pricing assumptions are borne out in reality, i.e. the time pattern of deaths is as predicted in the 1958 CSO

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[3] An endowment policy pays a benefit at the end of a specified period, if the life insured is then living, and otherwise pays a benefit on his or her previous death. In this case, the specified period is 15 years. A 10-payment policy is a policy which requires 10 annual payments.

[4] This particular number of people is chosen because the 1958 CSO mortality table is based on 10,000,000 births and the table predicts that 9,373,807 of these people will still be living at age 35.

[5] The 1958 CSO table is reproduced in, e.g. McGill (1967), at 188.

table and the company earns 6% interest on investing the premiums.

Table 1

COMPANY TAXATION EXAMPLE

year	premiums paid (+)	benefit payments (-)
1	521,569.81	23,528.00
2	520,260.68	24,685.00
3	518,887.18	26,112.00
4	517,434.28	27,991.00
5	515,876.83	30,132.00
6	514,200.25	32,622.00
7	512,385.12	35,362.00
8	510,417.54	38,253.00
9	508,289.09	41,382.00
10	505,986.55	44,741.00
11	0.00	48,412.00
12	0.00	52,473.00
13	0.00	56,910.00
14	0.00	61,794.00
15	0.00	8,829,410.00

year	..... policy reserve ..... opening (+)	closing (-)	interest income (+)	income for tax purposes
1	0.00	529,336.00	31,294.19	0.00
2	529,336.00	1,087,887.49	62,975.80	0.00
3	1,087,887.49	1,677,069.15	96,406.48	0.00
4	1,677,069.15	2,298,182.63	131,670.21	0.00
5	2,298,182.63	2,952,771.03	168,843.57	0.00
6	2,952,771.03	3,642,367.55	208,018.28	0.00
7	3,642,367.55	4,368,675.83	249,285.16	0.00
8	4,368,675.83	5,133,585.96	292,745.60	0.00
9	5,133,585.96	5,939,005.56	338,512.50	0.00
10	5,939,005.56	6,786,950.63	386,699.53	0.00
11	6,786,950.63	7,145,755.67	407,217.04	0.00
12	7,145,755.67	7,522,028.01	428,745.34	0.00
13	7,522,028.01	7,916,439.69	451,321.68	0.00
14	7,916,439.69	8,329,632.08	474,986.38	0.00
15	8,329,632.08	0.00	499,777.92	0.00

Note: (+) represents an income inclusion; (-) represents a deduction

Let us trace the history of this block of life insurance policies as shown in Table 1. The premium, assuming no expenses, is $0.0556412 and the total amount of premiums paid in the first year by the 9,373,807 policyholders is $521,569.81. At 6% interest, income of $31,294.19 is earned on investment of the premiums. A total number of 23,528 people die in the year, each with a death benefit of $1. This leaves a policy reserve of $529,336.00 at the end of the first year. The second year's premium is now payable from each of the 9,350,279 survivors at age 36, a total of $520,260.68. Interest is now earned on the sum of this amount and the policy reserve at the end of the previous year. The policy reserve continues to grow in like manner until year 15, at which time the payment of death and endowment benefits completely exhausts the funds available and leaves a zero policy reserve.

The paragraph above uses the retrospective calculation of the policy reserve. In the previous section of the paper, the policy reserve was defined in a prospective manner as the present value of future benefits less the present value of future premiums. It is shown in any actuarial text, such as Jordan (1975), that the prospective and retrospective definitions of the policy reserve are equivalent.

The table also shows the tax effects on the life insurance company of the sale of these 9,373,807 non-participating policies. The income inclusions are the premiums collected, the policy reserve at the end of the previous year, and the interest income earned on the policy reserves.[6] The deductions allowed are the policy reserve at the end of the current year and the death claims paid during the year. The net effect of the inclusions and deductions is shown in the last column of the second panel of the table: as desired, the insurance company has no income or loss for tax purposes.

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6 As discussed in Chapter 3 below, the tax treatment of the investment income of a multinational insurer is more complicated than this. However, to the extent that these rules accomplish their objective of properly measuring Canadian investment income, this treatment is correct.

The table shows that a major effect of the policy reserve deduction is to exempt from corporate income tax the interest income earned on the policy reserves to the extent that it funds promised future benefits to policyholders.

2.3 Policyholder Example

Another way to analyze the data presented in the preceding table is from the perspective of one policyholder. This is done in Table 2 below, except that for convenience the face value of the policy is changed from $1 to $10,000. The amounts displayed for the policy reserve, premiums paid and interest income are for a single surviving policyholder rather than a block of policies. The interest income column shows the amounts that would be taxable to the policyholder each year under annual accrual taxation.

Table 2

POLICYHOLDER EXAMPLE

calendar year	premiums paid	mortality loss	policy reserve	interest income
1	556.41	26.52	566.12	32.04
2	556.41	29.48	1,166.56	66.03
3	556.41	33.05	1,803.40	102.08
4	556.41	37.56	2,478.76	140.31
5	556.41	42.88	3,195.17	180.86
6	556.41	49.26	3,955.34	223.89
7	556.41	56.69	4,762.34	269.57
8	556.41	65.13	5,619.61	318.09
9	556.41	74.88	6,530.87	369.67
10	556.41	86.10	7,500.22	424.54
11	0.00	95.97	7,939.21	449.39
12	0.00	107.31	8,406.27	475.83
13	0.00	120.23	8,903.68	503.98
14	0.00	135.07	9,433.96	534.00
15	0.00	0.00	0.00	566.04

The amounts in Table 2 corresponding to benefit payments in the Table 1 are the annual mortality losses. According to the notation defined above, the mortality loss is computed as $q(j)(F-R(j+1))$. The mortality loss represents the loss in value of the policy

reserve due to the chance the policyholder will die in the year and receive a death benefit payment. The mortality loss is also known under a variety of other names, most notably the "cost of protection" and, in the current tax law, the "net cost of pure insurance".

A modified version of the retrospective calculation of the policy reserve applies to this single-policyholder analysis. The policy reserve at the end of the current year can be computed as the previous year's policy reserve plus premiums paid and interest income less the mortality loss.

This table can also be used to illustrate Linton's (1919) idea that all life insurance policies can be separated into protection and savings elements. According to this view, each premium is the sum of an amount for savings and an amount for the cost of protection. The amount of the premium devoted to the cost of protection is simply the mortality loss divided by one plus the interest rate (since the premium is paid at the start of the year and the mortality loss refers to the end of the year). For example, the first year's premium of $556.41 is $26.52/1.06 =$25.02 for protection and the rest ($531.39) for savings. For whole life policies, there may be negative savings in later years because the amount required for protection exceeds the premium.

The savings/protection view also holds that life insurance death benefits can be similarly divided into a return of accumulated savings with interest and a mortality gain. The policy reserve is considered to represent accumulated savings with interest. For example, a policyholder who died in year 7 of the table would receive $4,762.34 from the policy reserve and the remainder ($5,237.66) as a mortality gain.

Chapter 3

CANADIAN TAXATION OF LIFE INSURANCE: EVOLUTION OF CURRENT LAW

3.1 Personal Income Tax

3.1.1 Before 1968

The first income tax statute in Canada, the Income War Tax Act of 1917, specifically excluded from income for tax purposes amounts received from life insurance policies on maturity of the policy, death or surrender.[7] This specific exclusion was eliminated from the Act in 1940, but this was only a simplifying measure and the policy of non-taxation of life insurance proceeds continued.[8] It was not until 1968, over fifty years after the Canadian income tax began, that any income tax was imposed on life insurance policyholders. On the other hand, Canada's tax preferences for life insurance have never included general tax relief for premiums paid as has been allowed in the United Kingdom.[9] As of 1968, relief was provided in only a few circumstances: no taxable benefit from employment for $25,000 or less coverage under employer group term life policies; a deduction for premiums when the contract was issued under a Registered Retirement Savings Plan; and a deduction for the cost of term insurance related to the borrowing of money used to earn income.[10]

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7 An Act to authorize the levying of War Tax upon certain incomes. Stat. Can. 1917, c.28, sub-s. 3(1).

8 An Act to amend the Income War Tax Act, Stat. Can. 1940, c.34, s.13. See the comments by Mr. Isley, the Minister of Finance, in 2 H.C. Debates 1822 (1940).

9 This was abolished in the 1984 Finance Act.

10 Knechtel (1977).

3.1.2 The 1968 Budget

At least part of the motivation for the 1968 budget proposals was provided by the 1966 report of the Royal Commission on Taxation chaired by Kenneth Carter. The Carter report recommended that life insurance be taxed essentially according to the principles of comprehensive income taxation.[11] Carter recommended that the investment income credited to life insurers' policy reserves be allocated to individual policyholders annually and be included in their incomes for tax purposes. This procedure was consistent with that recommended for investment income earned through other financial intermediaries that was not immediately taxable to the beneficiary. The Carter Report also recommended that the entire amount of policy dividends be reported annually as income of policyholders. Carter's only significant deviation from the comprehensive tax base is that mortality gains and losses on non-group life insurance policies would not be recognized for tax purposes and thus there would be no income inclusions or deductions for them.[12] This implies that death benefits paid to the policyholder's estate would be completely non-taxable. However, in line with Carter's general recommendation that gifts of all types are income and should be fully taxable, policy proceeds received by other beneficiaries would be taxable in full.

The 1968 income tax proposals of Finance Minister E. J. Benson went only a small part of the way towards implementing the Carter recommendations.[13] Annual taxation of investment income was adopted only for the small number of variable or equity-linked policies.[14] For the vast majority of policies, the budget provided that tax would only

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11 Carter (1965).

12 Carter stated that mortality gains and losses should eventually be recognized for tax purposes but this should be delayed until after the Commission's other life insurance recommendations were implemented.

13 An Act to amend the Income Tax Act, Stat. Can. 1968-69, c.44, sub-s. 1(1), adding paras. 6(1)(oa),(ob), and s.20 adding s.79(D).

14 Equity-linked policies are described in Pedoe and Jack (1978) at 423-426.

apply on disposition of the policy. This delay in recognition of income implies a significant amount of tax deferral relative to the Carter proposals. The effect of the tax changes was further reduced by the narrow meaning given to the term "disposition". A disposition was defined to include the surrender or maturity of a policy within the lifetime of the person insured but did not include the payment of a death benefit. Thus a policyholder who held a policy until death was not to be subject to tax.

A less obvious but important aspect of these amendments is that the amount subject to tax on disposition was significantly less than the total amount of income earned on the policy. The amount subject to tax was the excess of the proceeds received on disposition over the "adjusted cost basis" (ACB) of the policy. The ACB was essentially the sum of premiums paid less the amount of policy dividends received in cash or left on deposit. This tax calculation significantly understated the true investment income because the ACB was not reduced by the mortality losses sustained by the policyholder during the time he owned the policy. The absence of such an ACB reduction meant that the amount taxable on disposition was the accumulated investment income less accumulated mortality losses. For many policies, especially non-participating policies, the result was that dispositions resulted in no tax liability at all.

Three more specific aspects of the 1968-69 amendments are worthy of note. First, policy dividends were a reduction of the ACB of the policy and thus were to be non-taxable until the ACB had been reduced to zero or until there was a surrender or maturity.[15] Given the absence of an ACB reduction for mortality losses noted above, policy dividends could generally be received for many years before incurring any tax liability. This tax treatment is quite different from Carter's recommendation that policy dividends be fully taxable when received. Second, the conversion of a life insurance policy into an annuity with the same insurance company was not considered to be a taxable event. The

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15 Policy dividends are not a distribution of after-tax profit and hence have never been eligible for the dividend tax credit. Policy dividends paid are deductible in computing the income of a life insurance company for tax purposes.

income earned in the life insurance policy was taxable only as the annuity payments were received. Thus a conversion into an annuity was treated more generously than the surrender of a life insurance policy and the subsequent purchase of an annuity or other investment. Third, the transitional rules affecting the tax treatment of policies in existence on budget date were also generous. All income earned prior to the second anniversary date after the budget day was exempted from future tax by adding that amount to the ACB of the policy.

Another part of the 1968 budget was the imposition of a tax on life insurance companies under Part XII of the Act of 15% of the amount of income considered to have accrued in the year to the benefit of policyholders. This tax was effectively refunded to the insurer when the policy was surrendered or matured, since at that time the gain was potentially subject to tax at the policyholder level. No refund was made on the death of the life insured as no policyholder tax was levied in that circumstance. Apparently it was assumed that the insurer would pass its Part XII tax liability on to policyholders through increases in premium rates or reductions in policy dividends and thus the total policyholder and company taxation system would roughly approximate tax on accrual. Obviously this was only a very rough approximation, especially for taxpayers whose marginal tax rates differed significantly from 15%.[16]

3.1.3 The 1977 Budget

The bias of the Part XII tax against low-income earners was made more dramatic by the introduction in 1974 of the $1,000 investment income deduction. This deduction applied to policyholder gains on disposition but of course could not apply to the 15% corporate tax. It became apparent that the tax at the corporate level could no longer be justified without comparable relief to the $1,000 deduction. Therefore, in his budget of March 31, 1977, Finance Minister Donald S. Macdonald proposed to repeal the 15% tax.

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16 A detailed assessment of the policy problems of the Part XII tax is provided in Cameron (1977).

In its place, he proposed to treat the death of the life insured as a disposition and include in the personal taxable income of the policyholder the excess of the death benefit over the ACB. To ease the burden of the new tax, the first $10,000 of gain on death would be exempt where the policyholder was the deceased or the spouse of the deceased. The effect of these measures would have been to increase the amount of tax collected on policies held until death and to decrease tax collections from surrenders and maturities.

The "tax on death" proposal resulted in a massive lobby from the insurance industry and so on October 20, 1977 it was withdrawn "pending further study". However, to the surprise of many, the government proceeded with the repeal of the 15% tax as well as some more minor insurance measures proposed in the budget. One such measure was to increase the ACB of every policy by the amount of income accrued to the next policy anniversary after March 31, 1977. The explanation is that since the mechanisms which provided a refund of the 15% tax when the policyholder became taxable were no longer available after 1977, it was considered desirable that income that had been subject to the 15% tax should not be taxed subsequently to the policyholder. Another amendment arising from the 1977 budget was to include within the definition of disposition the taking of a policy loan after March 31, 1978. This made taxable any excess of the policy loan over the ACB of the policy. The amendment was necessary to correct the abuse that had developed of a policyholder effectively surrendering his policy without incurring any tax liability by taking a policy loan of the full cash surrender value and then letting the policy lapse.[17]

The tax situation prevailing after the amendments arising out of the 1977 budget were enacted was highly unsatisfactory for the government. The repeal of the 15% tax without the quid pro quo of a tax on payments of death benefits meant a significant loss of revenue and a highly preferential treatment of life insurance relative to other vehicles earning investment income.

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17 Stat. Can. 1977-78, c.1

3.1.4 The 1981 and 1982 Budgets

3.1.4.1 1981 Proposals

In the November 12, 1981 budget, Finance Minister Allan J. MacEachen proposed that on life insurance policies issued after the budget date, individual policyholders would be subject to tax every three years on the accrued investment income in their policies. Corporate policyholders would be taxed annually. Accrual taxation was to apply not only to life insurance policies but to all financial instruments of a debt rather than equity nature, including annuities and debt obligations.

The budget also proposed a change in the taxation of existing life insurance policies. For dispositions after budget date, the ACB of a life insurance policy was to exclude that portion of any premiums that is not reasonably attributable to the savings element of the policy. This amounted to reducing the ACB for mortality losses and would substantially increase the amount of income taxable on disposition.

As in 1977, these proposals evoked much protest, perhaps more that for any other item in a budget that was controversial on many grounds. A series of retreats and concessions were made, beginning little more than a month after budget day and continuing through the June 28, 1982 budget and almost up to March 30, 1983, the date that Royal Assent was given to the amending legislation. In retrospect, perhaps the major political error was combining in the same budget a major change in the treatment of new policies with a significant change in the taxation on disposition of old policies. The change in the ACB of old policies made it possible to mobilize existing policyholders in opposition to the changes. The retreat from this measure on December 18, 1981 was too late to stem the tide of protest.

3.1.4.2 Final Amendments

Types of Policies:

The final amendments passed by Parliament provide that individual policyholders are required to report accrued income at least every three years on all life insurance policies except exempt policies and grandfathered (existing) policies. Corporations owning policies subject to accrual are required to report this income annually.

Accrued income on a policy subject to accrual taxation (a "non-exempt" policy) is measured by the difference between the policy's accumulating fund and its ACB. The accumulating fund is generally the maximum tax actuarial reserve allowed as a deduction for corporate income tax purposes to the issuing insurance company. This is usually equal to the policy's cash surrender value. The ACB includes income that has already been taxed to prevent this income from being taxed again in later years. The ACB is reduced by the net cost of pure insurance (discussed below). Accrued income reported is eligible for the $1,000 investment income deduction.

Exempt policies are not subject to tax on accrual. An exempt policy is a life insurance policy which is considered to provide a significant amount of insurance protection relative to the income build-up and tax deferral it offers. It is estimated that 85% of the permanent life insurance contracts in the marketplace at the time the new rules were announced qualified as exempt policies.[18] Given the tax consequences of purchasing a non-exempt policy, it is likely that an even higher proportion of currently-issued policies are exempt.[19]

The Exemption Test:

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18 Institute of Chartered Life Underwriters of Canada (1983).

19 For more details, see Macnaughton (1983) or Life Underwriters Association of Canada (1984).

The test for exempt policy status determines if a policy's accumulating fund is sufficiently small relative to the death benefit. The standard that is used to determine if a policy's accumulating fund is sufficiently small is basically the size of the accumulating fund under a hypothetical 20-pay, endowment-at-85 "exemption test policy". A policy is exempt if its accumulating fund does not exceed the accumulating fund under the exemption test policy, has not exceeded it in the past, and is not expected to exceed it in the future. Whole life policies with premium-paying periods of less than 20 years, such as single-premium whole life, are the most important category of policies that will likely fail the test for exempt status.

There are a number of other significant aspects of the exemption test besides the 20-pay aspect. Perhaps the most significant is the mortality and interest assumptions that are used in determining the accumulating fund of the exemption test policy. Generally, the assumptions used are those employed in calculating the maximum tax actuarial reserve of the actual policy for corporate tax purposes. However, there is an important lower limit on the interest rate that may be used; for policies issued before May 1, 1985 the minimum rate is 3%, and for policies issued thereafter the minimum rate is 4%. The minimum interest rate is at least as important as the 20-pay rule in determining which policies will fail the exemption test. The lower this interest rate is, the higher can be the accumulating fund of the exemption test policy, and the smaller will be the number of policies which will be non-exempt.

Another significant aspect of the exemption test is the way it treats increases in the death benefit of a policy after the policy has been issued. The exemption test treats increases in face amount of up to 8% per year as having been part of the policy since issue. This special rule has the effect of subjecting additions to a policy to a much less restrictive test than is applied to a new policy. Thus policies which have these face amount supplements, which are mainly participating policies using policy dividends to pay for paid-up additions, are able to obtain much greater tax benefits than other policies.

On the other hand, the exemption test is approximately neutral between converting a term policy to whole life versus purchasing a new whole life policy. The "250% rule" causes the whole life policy obtained by term conversion to be considered to be essentially a new whole life policy rather than a policy with the issue date of the original term policy.

In order for the exemption test to be effective, there must be some penalty for failing it. This is provided by treating the conversion of an exempt policy into a non-exempt life insurance policy or an annuity as a "deemed" disposition with tax at that time on the difference between the accumulating fund and the ACB.

The Net Cost of Pure Insurance:

Besides the exemption test, the other major consequence of the November 12, 1981 budget was the ACB reduction for mortality losses. Generally, an annual reduction of the ACB for the net cost of pure insurance for the year will apply beginning in 1986 for policies issued after December 1, 1982. Both exempt and non-exempt policies are subject to this ACB reduction. The net cost of pure insurance is defined to be the probability of dying in the year (q_x in actuarial notation) multiplied by the difference between the death benefit and the accumulating fund. The mortality table to be used in determining the probability of dying is not yet legally part of the income tax regulations but is generally understood to be the Canadian Institute of Actuaries 1969-75 table, disaggregated by sex and, where appropriate, by smoker vs. non-smoker status.

The ACB reduction for the net cost of pure insurance is something less than truly taking into account mortality losses in calculating taxable income from life insurance policies. There are two reasons. First, the net cost of pure insurance does not contain any expense loading. In effect, all of the expense loading in the premiums is assumed to be associated with the savings aspect of the policy. Second, the net cost of pure insurance affects the income calculation only to the extent that the ACB is positive. Beyond

that point, NCPI reductions have no effect. For example, supose a person surrenders his policy for $10,000 and the ACB, if allowed to be negative, would be -$5,000. Although the person should be taxed on the full $15,000 of accrued income, only $10,000 is taxable.

Grandfathering:

A further aspect of the amendments arising from the November 12, 1981 budget is the transitional rules or "grandfathering". As with the 1969 and 1977 amendments, the grandfathering was quite generous. Generally, policies issued before December 1, 1982 are not subject to any of the new rules. In particular, they are not subject to the ACB reduction for the net cost of pure insurance and they are exempted from accrual taxation. This is true regardless of how savings- oriented the policy is or how long it continues in force. A particularly generous aspect of these transitional rules is that a term policy issued before December 2, 1982 can be converted into a whole life policy after December 1, 1982 and still not be subject to any of the new rules as long as it qualifies as an exempt policy. Life insurance companies have used this as a marketing tool to persuade owners of term policies not to let the policies expire or lapse and instead convert them to whole life.

Capital Dividend Account:

Since 1972, the excess of the death benefit over the ACB of a corporate-owned life insurance policy had been included in the capital dividend account of the corporation and thus was a non-taxable receipt when paid to shareholders. The 1982 budget proposed to end such tax-free payments because the premiums on corporate-owned policies are paid with funds that have not borne personal income tax. The final amendments incorporated a diluted form of this proposal, but the May 23, 1985 budget repealed these amendments and returned to the pre-1982 rules.

3.2 Corporate Income Tax

This section deals with the taxation of life insurance companies in regard to their sales of life insurance policies. It does not discuss corporate tax aspects of the annuity and pension products of life insurance companies.

3.2.1 Before 1969

The Income War Tax Act of 1917, which was the first income tax statute in Canada, provided a tax exemption for not only life insurance policyholders but also life insurance companies. An exemption was provided for the income of "life insurance companies except such amount as is credited to shareholders' account". This exemption meant that only those net earnings of a life company which were allocated to the shareholders' fund, whether or not distributed as share dividends, were subject to corporate income tax. Mutual life insurance companies, having no shareholders' funds. were fully exempted from tax.

These principles governed the taxation of life insurance companies for over fifty years, from 1917 to 1968. Even though mutual non-life insurance companies became subject to corporate income tax in 1947, life companies continued to be almost fully exempt. In 1948, when the Income War Tax Act was replaced by the Income Tax Act in 1948, the exemption was continued through the definition of the taxable income of a life insurance corporation.[20]

3.2.2 The 1968 Budget

Stemming in part from the recommendations of the Carter Report, the 1968 budget proposed radical changes in the taxation of life insurance companies as well as policyholders. Life insurance companies, which had been accustomed to paying virtually no income tax, were now to be subject to two different forms of corporate income tax: the normal corporate income tax under Part I of the Act, plus a special Part XII tax on "tax-

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[20] A fuller discussion is contained in Whaley (1970).

able Canadian life investment income".

3.2.2.1 Part I Tax

Policy Reserves:

In order to extend the Part I tax to life insurance companies, a number of issues had to be resolved. Foremost was the definition of the policy reserves for tax purposes ("maximum tax actuarial reserves"). This involved striking a balance between the reserves that the Superintendent of Insurance considered necessary for solvency purposes and the level of reserves that would leave sufficient profits for a satisfactory tax base. The government decided not to use the reserves reported to the Department of Insurance in the annual statement. Instead, in the case of life insurance policies with guaranteed cash surrender values, the government opted for net level premium reserves computed using the same mortality and interest assumptions that are implicit in the cash surrender values.

The life insurance industry pressed strongly for the allowance of special contingency reserves in addition to the normal actuarial reserves based on expected values of liabilities. Their argument was that mortality risks were highly contingent and the long-term nature of life insurance contracts increases the hazard of adverse results with respect to investment income, operating expenses, and losses on liquidation of investments to meet surrender demands. The Senate was sympathetic and recommended that additional reserves be provided in the Regulations. The government resisted, stating that the maximum tax actuarial reserves involved some margin for contingencies and that the effect of any unusual losses would be cushioned through the effectively indefinite carryforward of losses.

The indefinite carryforward of losses is peculiar to the life insurance industry. It arises because the maximum tax actuarial reserve deduction is a large component of insurance companies' deductions and the amount claimed is discretionary. A company

experiencing losses in a year can simply claim only enough of the deduction in that year to reduce its tax payable to zero. No loss for tax purposes need be created, so tax losses do not expire as in other industries.

Mutual Companies:

Another issue to be resolved was the treatment of mutual companies. The view of some industry representatives, supported by a 1953 Supreme Court decision, was that a mutual company is a cooperative enterprise that has no profits and thus cannot be subject to corporate income taxation. The life insurance industry in general did not support this position, however. The final legislation simply deemed mutual insurance companies to be carrying on an insurance business for profit and made no distinction between mutual and stock companies.

Multinational Companies:

Perhaps the most important decision made in extending the Part I tax to life insurance companies was to limit the taxation of resident life insurance companies to the income from Canadian business. This was a sharp departure from the normal practice of taxing domestic corporations on their worldwide operations and allowing credits for foreign taxes paid.

Much technical complexity was involved in defining the income from Canadian business for multinational life insurers. Each multinational insurer had to calculate its "Canadian investment fund" for the year, which can be interpreted as the total value of investment property that was considered to be used in the Canadian businesss in the year. For a resident life insurer, the Canadian investment fund was calculated by prorating its world-wide property to Canada in the proportion which Canadian insurance liabilities bore to the total. Once the Canadian investment fund for the year was determined, the revenue which was considered to relate to the Canadian investment fund was included in the insurer's taxable income under Part I of the Act. This revenue could be calculated

under either of two methods, the proportional method or the branch accounting method, both of which proved to have serious deficiencies.

3.2.2.2 Part XII Tax

The second corporate-level tax imposed in the 1968 budget was the 15% Part XII tax on the investment income considered to be accruing to the benefit of policyholders. The rationale and relationship to policyholder taxation is described in the previous section of the paper. An unusual aspect of the Part XII tax is that it was allowed as a deduction in computing taxable income under Part I of the Act. This is difficult to understand in policy terms since it was intended as a proxy for policyholder tax and not as a separate corporate tax. In any event, deductibility reduced the rate of tax by about one-half to 7.5% where the company had Part I taxable income. It also introduced great complexity to calculations of total tax payable and in tax planning, since Part I taxable income was a deduction in computing the tax base of the Part XII tax. The formulae required are shown in Whaley (1974) and McDonald (1980).[21]

3.2.3 The 1977 Budget

As discussed above, the March 1977 budget proposed to repeal the Part XII tax and replace it with a tax on policyholders at the time of the death of the life insured. After much public protest, the end result was the repeal of the Part XII tax without any replacement at the policyholder level.

In spite of the repeal of the Part XII tax, the net effect of the 1977 budget was a tax increase for most life companies.[22] This was due to major changes in the normal Part I tax as it applied to life insurers. The motivation for the government was the evidence that the tax system introduced in the 1968 budget had failed to achieve its goal of raising

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21 This section of the paper is based on Whaley (1970), Thompson (1980) and Knechtel (1980).

22 McDonald (1980), at 16.

a significant amount of Part I tax from the life insurance industry. Only $9.6 million of federal and provincial corporate taxes, other than Part XII taxes, was paid by Canadian life insurers in 1976.[23]

Two factors were principally to blame for this situation: the excessive level of maximum tax actuarial reserve deductions and the weaknesses in the calculation for multinational life insurers of the gross investment revenue attributable to Canadian insurance activities.

3.2.3.1 Policy Reserves

The major reason for the excessive level of policy reserves was the use of the net level premium method of calculation. This method sets aside a constant amount of each premium for the reserve. This does not recognize that initial annual premiums are used to fund the administrative costs incurred to acquire and write such contracts. In particular, commissions to sales personnel are usually highly front-end loaded. Therefore the net level premium method creates a reserve which exceeds the amount required to fund the insurer's liability and thus includes a contingency factor.

Since administrative costs are deductible for tax purposes as incurred, their deduction, together with a deduction for a policy reserve determined on the net level premium method, results in a significant loss for tax purposes in the year the insurance contract is issued. Consequently, a constantly growing business would tend to produce continuing losses and ever-growing tax deferral.

The budget replaced the net level premium method of calculating policy reserves with the full preliminary term method. Under the full preliminary term method, no policy reserve is available in the year of issue. This permits the large first-year deduction for administrative costs to be balanced against the income inclusion for premiums received in that year and eliminates the first-year loss. The full preliminary term

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23 Knechtel (1980), at 16.

reserve for the second and subsequent years is generally the net level premium reserve for a policy issued one year later on a life insured who is one year older.[24]

3.2.3.2 Multinational Companies

The other major corporate tax change was the introduction of new rules for determining the gross investment revenue attributable to Canadian insurance activities. As discussed above, the 1968 budget required an insurer to calculate its Canadian investment fund and to use one of two methods, the proportional method or the branch accounting method, to determine the revenue which relates to that fund. The 1977 budget abolished the proportional method and significantly modified the branch accounting method.

The basic idea of the branch accounting system was to identify the property which related to Canadian operations and to include the actual revenue earned on this property in determining the income from the Canadian portion of the insurance business. The expectation in the 1968 budget had been that the insurer's accounting system would clearly make this identification. This did not prove to be the case, so in 1972 the government introduced a system in which the insurer was free within limits to arbitrarily designate property related to the Canadian operations. This led to abuses such as the designation of property with low or non-existent investment revenue, e.g. a head office building.

The 1977 amendments added a number of complex safeguards to the designation system. One of the most significant was a limit on the amount of "Canadian equity property" that could be designated. For a resident multinational life insurer, this limit ensures that the percentage mix of Canadian equity property to total investment property for Canadian business is the same as the percentage mix of equity property to all its business, including foreign business. For a non-resident insurer, Canadian equity property

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[24] For more details, see Department of Finance (1977), Knechtel (1980), and Thompson (1980).

must not exceed an arbitrarily-set maximum of 8% of an approximated Canadian investment fund. The purpose of this equity limit is to protect the Canadian tax base since dividend income from Canadian equity property is effectively non-taxable because of the deduction for inter-corporate dividends.[25]

3.2.4 Recent Developments

Few significant changes have been made to the taxation of life insurance companies since the 1977 budget.

The 1981 budget introduced change-in-use rules which create a deemed disposition when properties are shifted in or out of the Canadian life insurance portion of an insurer's business. This change prevents an insurer from shifting an appreciated property from its Canadian to its non-Canadian life insurance business in order to avoid paying Canadian capital gains tax.

The 1985 budget notably excluded life insurance companies from a two-year tax on the capital of larger financial institutions. Only banks and trust and loan companies are subject to the tax. The justification for the tax is that on account of their low normal tax liabilities these institutions are relatively little affected by the corporate surtax. This rationale applies equally to life insurance companies, as it is generally understood that their income tax liabilities are still quite low, but they have not been made subject to the tax.

3.3 Taxes Other Than Income Tax

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25 This discussion is based on Knechtel (1980) and Thompson (1981).

3.3.1 Premium Taxes on Life Insurance Companies

Premium taxes on life insurance companies have a long history in Canada. Prior to 1969, the principal tax on life insurance in Canada was the provincial premium tax. When the federal Parliament passed the Income War Tax Act in 1917, the provinces already had in place taxes on insurance companies ranging from 1 to 1.75% of gross premiums.

By 1939, provincial premium tax rates had risen to a range of 2 to 3.3%, of which some were applied to gross premiums and others to gross premiums less policy dividends. Effective in 1941, as a result of a federal-provincial agreement, premium taxes and most other provincial taxes were suspended and "rented" to the federal government for the duration of World War II. Parliament amended the Special War Revenue Tax Act to impose a 2% tax on life insurance premiums net of policy dividends and reinsurance ceded. The federal tax lasted until 1957, at or before which time all provinces re-imposed 2% premium taxes.[26]

Currently all provinces but Newfoundland levy a 2% premium tax in respect of business transacted in the province. The tax base is gross premiums less the sum of the cash value of dividends and premiums received in respect of reinsurance. Newfoundland has a 3% rate on the same base but the tax is imposed as a retail sales tax rather than a corporate tax. British Columbia announced in its 1986 budget that as of 1987, insurance companies with head offices in the province will be exempted from the B.C. premium tax.

An estimate of the revenue derived from the provincial premium taxes can be made the data in Canadian Life Insurance Facts (1984). In 1983, total premium income from life insurance policies was $3.98 billion and dividends amounted to $0.87 billion. Using the tax levied by nine of the provinces (2% tax on premiums net of dividends), it is estimated that the provinces collected $62 million in 1983 from premium taxes on life insurance policies. Total premium tax collections would be significantly larger because the

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26 This history is based on Whaley (1970).

taxes also apply to most non-life premiums. Only a small part of this is needed to pay the cost of the supervision of the life insurance business by the provinces.

The total revenue effect of the imposition of provincial premium taxes on life insurance policies will be less than $62 million since premium taxes are a deduction in computing income for the purposes of the corporate income tax. However, since many life insurance companies do not have any taxable income anyway, the value of this deduction is not great.

3.3.2 Other Corporate Taxes

Six provinces levy a capital tax : British Columbia, Saskatchewan, Manitoba, Ontario, Quebec and Newfoundland. Insurance companies are exempted from capital tax in Saskatchewan, Ontario and Newfoundland, presumably in recognition of premium taxes paid. In addition, Quebec does not levy a normal capital tax on insurance companies but instead its tax on premiums received by insurance companies is called a capital tax. British Columbia announced in its 1985 budget that it is phasing out its capital tax for all companies except major chartered banks with headquarters outside the province. Therefore, Manitoba is the only province that is continuing to levy a capital tax on insurance companies. The rate is 0.3% for taxation years ending after June 30, 1985. McDonald (1980) states that the provincial capital taxes were not significant in 1980 for most insurance companies and that is probably still true today for the Manitoba capital tax.

3.3.3 Policyholder Taxes

Until recently, no province imposed a tax at the policyholder level on life insurance premiums. Effective April 1,1986, Newfoundland has converted its corporate-level premium tax into a retail sales tax. However, the most noteworthy development in this area in recent years has been the attempt by Quebec to impose a retail sales tax on insurance premiums without removing the corporate-level premium tax.

In the April 23, 1985 budget, Quebec Finance Minister Yves Duhaime announced his intention to extend the Quebec 9% retail sales tax to insurance premiums paid after budget day. The 9% tax was announced to apply only to the protection element of life insurance premiums.

An Information Bulletin dated June 13, 1985 states that the tax base for individual life insurance was to include:

- 100% of the premiums for contracts which have no endowment value and
  - expire before the insured is 85, or
  - have no cash surrender value before death; and
- 40% of the premiums on other contracts.[27]

It is clear that the intent of this tax structure was to tax 100% of the premiums on term policies but only 40% of the premiums on whole life policies. This is no doubt based on the much higher savings element in whole life policies. The difficulty with this simple approach is in classifying universal life policies.[28] A universal life policy could be structured to meet the three conditions to be in the 40%-taxable category and yet still be in effect a term insurance policy. Probably for this reason, the Bulletin stated that anti-avoidance measures would ensure that premiums paid on policies with token cash surrender values will be fully taxable.

Premiums to be subject to the tax were to include: dividends applied to the purchase of additional insurance; premiums paid by means of policy loans; and prepaid premiums that are locked-in to the policy. For policies in the 40%-taxable category, dividends were to be deductible from premiums in computing the tax base. However, this deduction would be of no value if no premiums are paid on the policy in the year because the

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27 Gouvernement du Quebec Ministere du Revenu (1985).

28 A universal life policy is effectively a combination of an interest-earning deposit account ("side fund") and monthly term insurance. The death benefit is normally the sum of the amount in the side fund and the face value of the monthly term insurance.

tax is on a policy-by-policy basis, unlike the premium taxes imposed at the corporate level.

The newly-elected Liberal government announced in its December 18, 1985 budget that it is partially repealing the tax. Premiums paid on all non-group life insurance policies after December 18, 1985 will be exempt.

Chapter 4

ISSUES IN THE TAXATION OF LIFE INSURANCE

4.1 Policyholders

4.1.1 Income vs. Expenditure Taxation

Tax issues relating to policyholders are greatly affected by the basic system of taxation applying to investments. The two theoretically-pure systems are comprehensive income taxation and consumption or expenditure taxation. The major policy issues in the choice between the two systems have been discussed in Mintz (1985). The discussion in this paper is limited to the implications of the two systems for the taxation of life insurance. Following Aaron (1983) and previous authors, these are discussed according to the savings/protection view of a life insurance policy.

Comprehensive income taxation defines its tax base, income, as consumption plus the change in net worth. This definition of income includes all investment income that has been earned or accrued, regardless of whether or not it has been realized or received.

The application of comprehensive income taxation to a life insurance policy can be divided into the treatment of the savings and protection aspects of the policy. The treatment of the savings aspect is similar to a bank account: the savings component of premiums paid is neither a deduction nor an inclusion; the income earned on the accumulated savings is taxable as it accrues (i.e. annually); and the accumulated savings and interest component of death benefits is non-taxable to the policyholder.[29] Cash surrender values received would be wholly non-taxable as they are wholly a return of accumu-

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29 The bequest of the life insurance death benefit from the policyholder to the beneficiary might or might not be taxable to the beneficiary. This is a separate issue which depends on whether bequests in general would be income to the recipient.

lated savings and interest.

Comprehensive income taxation allows two possible treatments of the protection aspect of the policy. As noted by Vickrey (1947), the more theoretically correct approach is to allow a deduction for the cost of protection and to include in the tax base the mortality gain component of the death benefit. This is justified because the cost of protection reduces net worth while the mortality gain increases it. The alternative treatment is to ignore for tax purposes both the expenditure and the receipt. Combining this with the treatment of the savings aspect of the policy yields the more administratively and politically desirable result that no part of the premium is deductible and no part of the death benefit is taxable.

The application of expenditure taxation to life insurance policies is also well known in the literature. The usual expenditure-tax treatment of savings applies to the savings aspect of the policy: the savings component of the premiums paid is deductible, investment income is not taxed as it accrues, and the accumulated savings and interest component of the death benefit is taxable. Cash surrender values received are wholly taxable. The protection aspect of the policy is also savings or an investment, albeit one with a highly uncertain return, so the cost of protection is deductible and the mortality gain component of death benefits is taxable.

A different treatment of life insurance under the expenditure tax is required if life insurance is not to be a qualified asset.[30] The tax treatment required is close to present Canadian income tax law for exempt policies: premiums are non-deductible, investment income is not taxed as it accrues, and death benefits received are non-taxable. The main departure from current law is that cash surrender values received would also be non-taxable.

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30 An asset is non-qualifed if savings invested in that asset are non-deductible and later withdrawal of the funds for consumption is non-taxable.

The theoretical justification for allowing savings in non-qualified form under an expenditure tax is that, under certain circumstances, the tax paid immediately on investing in a non-qualified asset will be equal in present value to the tax that would have been payable in the future if the asset were treated as a qualified asset. However, in the case of assets with uncertain returns, this ex ante equality may be of little comfort ex post. If two people start out with an equal amount of non-registered assets and one becomes rich while the other goes broke, it will be hard to justify to the poor person not taxing the consumption of the rich person merely because it is financed by non-qualified wealth. This point applies to life insurance because it can be viewed as an asset with a highly uncertain return: in any period, either a death benefit is paid or not. Accordingly, life insurance poses problems of ex post vertical and horizontal equity if treated as a non-qualified asset under an expenditure tax.

4.1.2 Taxation of Real vs. Nominal Income

Although the Canadian Income Tax Act has features of both comprehensive income taxation and expenditure taxation, the general public view is probably that the Act should be, and is, a tax on income rather than expenditure. A basic issue in the application of an income tax to investment income is the adjustments to be made for inflation, if any, in the calculation of taxable investment income.

The only attempt in Canada to adjust investment income for inflation was made in the June 28, 1982 budget. Two schemes were proposed, one applying to equity in Canadian public companies and the other applying to interest income on indexed term deposit certificates sold by financial institutions and used to finance loans to certain target groups. The interest income proposal, which could conceivably have applied to a number of life insurance policies, was never implemented. The equity proposal was implemented as the Indexed Security Investment Plan but has been revoked by the May 23, 1985 budget.

The prospects of adjusting for inflation the taxation of interest income earned by life insurance policyholders now seem very dim. The Lortie Committee, which was appointed by the Minister of Finance to investigate the June 28, 1982 proposals, concluded that adjusting the tax system so that only real interest income is taxable would require major associated reforms. The Committee concluded that it would also be necessary to make only real interest income tax-deductible to the borrrower and to make inflation adjustments in the tax treatment of business inventories and capital cost allowances. There is little public support for this type of broad reform.

4.1.3 Taxation on Realization vs. Accrual

The choice of taxation on realization or taxation on accrual is closely linked to adjustments for inflation in the tax system. Taxation on realization implies tax deferral, which may partially compensate or over-compensate for the taxation of nominal rather than real income.

Current tax laws provide no uniform policy on taxation on realization vs. accrual. Capital gains on equity are taxable on realization (subject to the new $500,000 exemption) but income on most debt-type financial instruments has been taxable on accrual since the November 12, 1981 budget. Interest income earned on bank accounts and similar deposits was already taxable annually before the 1981 budget on the basis that it was received or receivable. This did not apply to life insurance policies. Life insurance policies have also generally been exempted from accrual taxation, as discussed above.

It is clearly administratively possible to impose tax on accrual for life insurance policies. There are few valuation problems in determining the accumulated savings under a life insurance policy, provided that one does not try to measure the effect on the value of savings accumulations of fluctuations in market interest rates. The accrual rules introduced with the November 12, 1981 budget impose accrual taxation on a minority of life insurance policies. These rules could be extended to other life insurance policies,

although some sort of exemption would probably have to be created for those term insurance policies which have very small savings accumulations relative to the face amounts of insurance.

The principal problem with taxing life insurance policies on realization is political and social. For policyholders who do not surrender their policies or have the policies mature in their lifetime, a tax on realization means a tax imposed at the time of death. It is clear from the history of the 1977 policyholder tax proposals, as discussed in Chapter 3, that a tax on life insurance proceeds realized by death is not acceptable to the majority of Canadians.

4.1.4 Tax Incentives for Life Insurance Ownership

Another factor to be considered in the taxation of life insurance policyholders is that there may be a need for a tax incentive for life insurance ownership. Two arguments in support of this view can be made. First, people may underestimate the risk of death and, therefore, fail to purchase sufficient life insurance to protect their families. Second, households may reduce their holdings of life insurance to the extent that welfare programs provide income in the event of the death of the insured. Rea (1981) has developed a theoretical model of the substitution of public welfare for private insurance, and Lewis (1985) has shown that this effect may be empirically significant in a study of individual life insurance holdings in the United States. Since the administration costs of public welfare programs are non-trivial and since some studies such as Browning and Johnson (1984) indicate that the cost of redistributing income through the tax-transfer system can be very high, a second-best argument can be made for subsidizing private life insurance holdings. The extent of the optimal subsidy to private life insurance would depend on: (a) the administration costs of public welfare programs and private life insurance, (b) the deadweight loss from additional income redistribution through the tax-transfer system, (c) the price elasticity of demand for life insurance, (d) the magnitude of the substitution

effect between public welfare and private life insurance, and (e) the proportion of welfare cases resulting from the death of a breadwinner. An estimate of the optimal subsidy for life insurance is beyond the scope of this study. (A satisfactory theoretical model of the optimal subsidy is likely to prove very complex and much work would need to be done to derive accurate estimates of the critical parameters.) However, we think that the optimal subsidy would be positive and would favour group or term life insurance as opposed to cash-value life insurance, since the second-best argument provides no rationale for a special subsidy on the rate of return on the saving element in cash-value life insurance.

In any event, there is broad public support for some type of tax incentive for life insurance ownership. In the public debate surrounding the 1981 budget proposals, it was clear that a principal objection to the proposals was that there would be no incentive remaining for life insurance ownership, apart from exclusion from taxation as an employment benefit of the first $25,000 of employer-paid group term life insurance.

4.1.5 Grandfathering of Tax Changes

As discussed in Chapter 3, the taxation of life insurance policyholders has been subject to three significant changes or proposals for change in the last twenty years: in 1969, 1977 and 1983. In each case, the question was raised of how previously-issued policies should be treated when new tax rules are introduced. Currently-accepted principles of fairness and equity generally hold that, as much as possible, tax changes should not be "retroactive". Public discussion of the life insurance portions of the 1981 budget suggest that the public views a tax change affecting life insurance policies as retroactive unless contracts issued before the tax change is announced continue to be taxed under the previous rules. Given the very long-term nature of life insurance contracts relative to other contracts, the implication is that it takes a very long time before currently-introduced tax changes have much effect on even a simple majority of whole life policies.

4.2 Life Insurance Companies

It should be apparent from Chapter 3 that the measurement of the income of life insurance companies is a very difficult and unresolved problem. In part, this is due to the long-term nature of the life insurance business. The life insurance industry is unique in the extent to which it writes thousands of contractual commitments extending over 20, 30 or 40 years into the future. The fixity of the contractual commitment is less for participating policies because the dividend scale is not a contractual matter and can be increased or (although this is rarely, if ever, done) decreased. Since market share of participating policies is greater now than it was some years ago, the life insurance business is not as long-term a business as before, but it is still very long-term.

The long-term nature of the business of a life insurance company causes difficulties in measuring the company's income because it makes the company's liabilities difficult to value. Payments under policies are to be made far in the future and the present values of these payments must be discounted using estimates of the market interest rates over that future period. Also, the timing of the future payments is unknown because it depends on how long the people insured will live. The large number of people insured allows the company to diversify away much of this mortality risk but there can be no assurance that deaths will follow the assumed mortality table.

The difficulty of measuring a life insurance company's income is illustrated by the fact that companies generally have at least three measures of that income: income for internally-used financial statements; income as reported to the regulatory authority, which is usually the federal Department of Insurance; and income for tax purposes. The traditionally conservative accounting practices prescribed by the regulatory authorities, primarily for the purpose of determining company solvency, do not provide a satisfactory basis for measuring income for income tax purposes. For example, the Department of Insurance permits the computation of policy reserves on the highly-conservative net level

premium basis[31] while the income tax regulations require the use of the full preliminary term basis.

The difficulties of measuring life insurance company income have led to a wide diversity of tax bases being used by various national and sub-national governments around the world.[32] Presumably for this reason, most states in the U.S. impose premium taxes in lieu of income taxes. This tax diversity has been used to justify Canada not taxing Canadian life insurers on their world income.

The existence of both stock and mutual life insurance companies also causes tax problems. Since mutual companies have no shareholders and are owned by their participating policyholders, part of the policy dividends paid may be considered remuneration to owners of the company. Under the current tax system, the full amount of policy dividends is considered as a refund of premiums and hence is generally deductible at the corporate level[33] and non-taxable at the personal level. If the tax principles applied to other types of companies were followed, amounts of policy dividends which are owners' remuneration would be subject to corporate income tax and also would be taxable at the personal level according to the dividend gross-up and tax credit system. It is noteworthy that the U.S. now imposes a proxy tax at the corporate level for the portion of policy dividends attributable to return of profits.

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31 Although few companies use the net level premium basis, the Department of Insurance does permit it and it is used by at least one company.

32 See Coopers and Lybrand (1984) and Hartford Institute on Insurance Taxation (1984).

33 As a partial concession to this line of argument, the policy dividend deduction at the corporate level is limited by the company's cumulative income from participating life insurance business net of policy dividends.

Chapter 5

THE LIFE INSURANCE INDUSTRY IN CANADA

5.1 The Market for Life Insurance

Life insurance has been an important vehicle for income protection and savings for Canadians. Using the ratio of life insurance to national income as a measure of the reliance on life insurance, Table 3 shows that Canada ranked first among these six industrialized countries from 1950 to 1965. After 1965 the Canadian ratio declined (as it did in the U.S., the U.K., and Sweden), and the ratio for Japan is now substantially higher than the Canadian ratio.

Table 3

LIFE INSURANCE OWNED IN RELATION TO NATIONAL INCOME FOR VARIOUS COUNTRIES (IN PERCENTAGES)

YEAR	CANADA	AUSTRALIA	U.S.	JAPAN	U.K.	SWEDEN
1950	120	52	98	na	60	43
1960	163	68	137	na	66	58
1965	191	95	159	91	86	139
1970	157	108	157	128	92	127
1975	150	103	154	206	75	127
1980	167	107	151	281	76	115
1982	175	111	165	305	117	127

Sources: Canadian Life Insurance Facts (CLIF), 1961 for 1950 and 1960 data.
Life Insurance Fact Book, various issues for the remaining years.

Table 4 shows the amounts of life insurance owned by type coverage from 1900 to 1982. There has been a long term trend towards group life insurance, and it now represents more than 50% of the total value of life insurance. Within the individually held life

insurance category, there has also been a trend since 1960 (when the first break down became available) towards term insurance. Individual cash-value insurance, such as whole-life, now represents about 41% of individual life insurance.

Table 4

LIFE INSURANCE OWNED BY TYPE OF INSURANCE

		INDIVIDUAL INSURANCE			GROUP
			CASH VALUE	TERM	INSURANCE
YEAR	TOTAL (MILLIONS OF $)	% OF TOTAL	AS A % OF INDIVIDUAL	AS A % OF INDIVIDUAL	% OF TOTAL
1900	431	100.0	na	na	0.0
1910	856	100.0	na	na	0.0
1920	2,657	97.1	na	na	2.9
1930	6,492	92.6	na	na	7.4
1940	7,040	89.6	na	na	10.4
1950	16,229	83.9	na	na	16.1
1960	46,867	68.6	73	27	31.4
1965	74,075	61.1	69	31	38.9
1970	118,822	52.9	62	38	47.1
1975	219,912	44.7	56	44	55.3
1980	431,194	41.3	46	54	58.7
1982	546,715	41.8	41	59	58.2

Source: CLIF, various years.

Further evidence on the trends in life insurance purchases is shown in Table 5. As a percentage of total individual life insurance purchased, term insurance has gone from 20% in 1965 to 42% in 1982. There has been a corresponding decline in the proportion of life insurance sold through endowment and limited payment policies. Interestingly, the proportion of individual life insurance sales represented by whole life policies declined from 27% in 1965 to 23% in 1980, but increased to 27% in 1981 and 32% in 1982. It is not clear whether the recent results represent a new trend or an aberration (perhaps caused by the changes in the tax treatment of life insurance and competing financial products which were introduced in the 1981 budget).

Table 5 also shows trends in the characteristics of the insured. The percentage of individual life insurance where the insured is a female increased from 9% in 1965 to 26% in 1982. This trend undoubtedly reflects the increase in the labour force participation rate for married females. Most life insurance is purchased when the age of the insured is between 25-34, and the age distribution of life insurance purchases remained relatively stable over the period 1965-1982. Table 5 also shows the distribution of individual life insurance purchases according to the income of the insured and the size of the policy. Inflation makes comparisons between years difficult, but it is interesting to note that in 1982, over half of the individual life insurance purchases were by individuals with incomes of more than $25,000 and that about half of the individual life insurance purchased was for policies with face values of $100,000 and over. (However, only 16% of individual life insurance policies purchased in 1982 had face values of $100,000 and over.)

Tables 4 and 5 indicate that there has been a long-term trend away from cash-value life insurance.[34] We will consider three reasons for this trend. The first is the growth of group life insurance which for many families is a good substitute for the income protection element of cash value life insurance. Group life insurance has become popular because of its low cost. This cost advantage arises because administration and sales costs are low, adverse selection problems are minimal (since individuals are insured because of their employment characteristics and not because they anticipate a relatively high probability of death), and a tax advantage is provided to group life policies (with face values of less than $25,000) because the premiums paid by the employer are not treated as a taxable benefit.

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34 Further evidence of the trend is given by the decline in the ratio of the liability of life insurance companies to policy holders to the net worth of persons and unincorporated business from 0.0824 in 1961 to 0.0546 in 1984. (Statistics Canada (1985), *The National Balance Sheet Accounts, 1961-1984*, Tables 03-1 and 03-19.) For a discussion of the factors that were responsible for this trend, see Statistics Canada (1980), "The Life Insurance Industry in Canada, 1961 to 1979, "*Financial Flow Accounts*", Third Quarter, pp. xix-xxxvi and R. Geehan (1981), "The Life Insurance Industry in Canada, 1961-1979", *Canadian Statistical Review*(July).

Table 5

ANALYSIS OF INDIVIDUAL LIFE INSURANCE PURCHASES
(Percentages of Amounts Purchased)

Type of Policy	1965	1970	1977	1982
Whole life	27	26	25	32
Limited payment life	10	9	7	2
Endowment	7	3	3	1
Level or decreasing term	20	29	42	42
Other [a]	36	33	23	23
Sex of Insured				
Male	91	87	80	74
Female	9	13	20	26
Age of Insured				
Under 15	7	6	6	6
15-24	26	25	23	16
25-34	34	36	44	41
35-44	23	22	19	26
45 or over	10	11	8	11
Income of Insured [b]				
Scale for 1965 & 1970:				Scale for 1977 & 1982:
Under $3,000	4	1	5	1 Under $7,500
$3,000-$4,999	29	10	9	2 $7,500-$9,999
$5,000-$7,499	33	32	27	10 $10,000-$14,999
$7,500-$9,999	9	19	22	15 $15,000-$19,999
$10,000 & over	25	38	13	16 $20,000-$24,999
			24	56 $25,000 & over
Size of Policy				
Scale for 1965 & 1970:				Scale for 1977 & 1982:
$1,000 and under	2	1	1	c Under $5,000
$1,001-$4,999	6	4	4	1 $5,000-$9,999
$5,000-$9,999	19	13	12	5 $10,000-$14,999
$10,000-$24,999	40	38	11	5 $15,000-$24,999
$25,000 & over	33	44	27	17 $25,000-$49,999
			22	21 $50,000-$99,999
			23	51 $100,000 & over

Source: CLIF, various years.
Notes: a. includes retirement income, family policies and other combination policies.
b. excludes unemployed.
c. less than one percent.

A second reason for the relative decline in cash-value life insurance is that the rate of return on cash value life insurance did not increase to the same extent as the rates of return on other assets in the late 1960's and throughout the 1970's. Mathewson et al. (1983) and Mathewson and Winter (1984) have computed the differential between the rate of return on long-term government bonds, r, and the average internal rate of return over a 20 year horizon on participating whole life policies, i, for fifteen insurance companies between 1960 and 1982.[35] Table 6 shows the mean rates of return as calculated by Mathewson and Winter (1984). Over the period 1960-67 the mean differential rate of return between long-term bonds and whole life insurance was 4.38%. That whole life insurance was an attractive asset in spite of its lower rate of return can be attributed to (a) the unique combination of options which a life insurance policy constitutes, (b) the low (or nonexistent) taxation of interest income earned on cash value life insurance, and (c) consumer ignorance. After 1967, long-term interest rates began to rise. The rate of return on whole life insurance increased slightly, and the mean differential rate of return rose to 5.98% in 1968-1973, 7.53% in 1974-78, and 10.41% in 1979-82.

Mathewson and Winter argue that the solvency regulation of the Superintendent of Insurance prevented the rate of return on life insurance from increasing during the period of rising interest rates after 1967. Prior to 1977, federally regulated life insurance companies were limited in the interest rate that could be used in computing the premium and policy reserves for life insurance policies. Prior to 1974, the maximum interest rate was 3.5%. Between 1974 and 1976, the maximum rate was 4.5%. In 1977, this form of regulation was dropped, and companies were allowed to adopt their own discount rates.[36] Mathewson and Winter argue that between 1967, when interest rates began to increase

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35 See also Cameron (1985) for an analysis of the rate of return on life insurance policies since 1962.

36 The solvency regulation by the Superintendent of Insurance through the use of regulated discount rates for policy reserves should not be confused with the minimum interest rates used in the exemption test that was discussed in Chapter 3.

Table 6

MEAN RATES OF RETURN ON LONG-TERM BONDS AND WHOLE LIFE INSURANCE

(Standard Deviations are Shown in Brackets)

	Mean Rate of Return on Long-Term Bonds	Mean Rate of Return on Whole Life Ins.	Mean Differential Rate of Return
	r	i	r-i
1960 - 1967	5.29 (0.33)	0.91 (0.26)	4.38 (0.19)
1968 - 1973	7.37 (0.38)	1.37 (0.02)	5.98 (0.36)
1974 - 1978	9.02 (0.22)	1.49 (0.10)	7.53 (0.24)
1979 - 1982	12.81 u15.32)	2.41 (0.35)	10.41 (1.98)

Source: Mathewson and Winter (1984, Table 1)

(and the regulation became binding) and 1977 when the regulation was abandoned, the restrictions on the discount rates that life insurance companies could use in setting premiums limited the rate of return on life insurance policies. This explanation of why the differential rate of return rose after 1967 does not explain why the differential increased after 1977 when the regulation was removed. In any event, the increase in the differential rate of return after 1967 may be one of the factors that lead to the relative decline in cash value life insurance.

Third, the relative decline in cash value may be due to the reduction in the tax advantages accorded to the investment income earned on cash value life insurance vis a vis other assets. As we have seen in Chapter 3, income earned on policy holders reserves was virtually exempt from personal income tax before 1969. In that year the 15% investment income tax was imposed, and the proceeds on the disposition of a policy while living were included in taxable income. Other assets began to receive more favourable tax

treatment with the introduction of the $1,000 interest income exemption in 1974 (extended in 1975 to include dividends and in 1977 to include capital gains). The expansion of the limits on contributions to RRSPs increased the advantage of this form of savings for retirement in comparison with cash-value life insurance. Thus changes in the personal income tax treatment of life insurance and other forms of investment income after 1969 may have contributed to relative decline in cash-value life insurance.

To summarize, the relative decline in cash value life insurance since the early 1960's may have been caused by the expansion in group life insurance coverage, the increase in the differential rate of return between long-term bonds and whole life insurance, and the changes in the tax treatment of income from life insurance and other assets. In section 5.2, we investigate the quantitative significance of these factors in the relative decline in cash value life insurance.

The distributional effects of changes in the tax treatment of life insurance depend on how the ownership of life insurance is distributed by income group. Table 7 shows life insurance premiums by income group in 1978 from the Family Expenditure Survey. First note that the percentage of families and unattached individuals reporting life insurance premiums is larger in the higher income groups. Similarly the average premium per family and the percentage of family expenditures on life insurance premiums increases with income. The latter results suggest that life insurance is progressively distributed across income groups.

However, there are a number of reasons why this conclusion may not be valid. First, the figures in columns two and three are based on all family units and not just those reporting life insurance. Column four shows life insurance premiums for family units reporting life insurance as a percentage of average expenditure per family unit (assuming that reporting and non-reporting family units have the same average expenditure in each income group). This shows that among family units reporting life insurance premiums,

Table 7

LIFE INSURANCE PREMIUMS BY INCOME GROUP IN 1978

Income Group	Percentage Reporting	Average Per Family	Percentage of Average Expenditure Per Family	Percentage of Average Expenditure for Families Reporting Premiums
Under $6,000	12.6	$16.1	0.31	2.43
$6,000-$7,999	19.6	$30.9	0.39	2.01
$8,000-$11,999	36.8	$69.8	0.66	1.79
$12,000-$15,999	45.6	$96.8	0.66	1.45
$16,000-$19,999	53.4	$156.4	0.86	1.61
$20,000-$24,999	59.4	$203.3	0.94	1.58
$25,000-$29,999	65.3	$229.5	0.87	1.33
$30,000-$34,999	67.2	$243.6	0.84	1.24
$35,000 and over	76.2	$487.1	1.19	1.76
All Groups	51.1	$182.8	0.90	1.76

Source: Statistics Canada (1978), Family Expenditure in Canada, Vol. 20, Major Urban Centres, Table 20.

the distribution of life premiums is regressive. Second, the number of persons per family unit varies by income group. Whereas the overall average family size is 2.75, it is 1.33 in the under $6,000 income group and 3.74 in the $35,000 and over income group. Thus unattached individuals are more concentrated in the lower income groups, and this may explain the lower percentage of family units reporting life insurance premiums in the lower income groups. Third, the age of family head varies by income group. In the under $6,000 income group, the average age of the head is 58.6 years which compares with the overall average of 45.0 years. Thus it is more likely that the low income groups contain family units with paid-up life insurance or retirees who are not part of group life plans, and this may also explain the low percentage of family units reporting life insurance premiums in the low income groups. Thus, given the available data, it is difficult to disentangle the influences of income, family size, and age on the holding of life insurance. Consequently it is difficult on the basis of these data to determine whether life insurance

premiums are more or less important as family income rises, holding the effects of age and family size constant.

Table 8 shows the level and distribution of the benefit payments of life insurers in Canada. Note that payments of annuities have become increasingly important for the life insurance industry and in 1982 represented 45.4 percent of total payments. The other major categories of benefit payment are death claims, surrender values and dividends to policy holders. Total benefit payments (excluding annuities) in 1982 were $3.3 billion or about 1% of total personal income. If annuity benefits are excluded, death claims represented 39%, surrender values represented 31%, and dividends represented 25% of benefits in 1982. Thus, roughly 56% of life insurance benefits are distributed to the insured while he is alive through cash surrender or dividends.

Table 8

LIFE INSURANCE AND ANNUITY BENEFIT PAYMENTS IN CANADA

YEAR	TOTAL (MILLIONS of $)	DEATH CLAIMS %	MATURED ENDOW-MENTS %	DISABILITY CLAIMS %	SURRENDER VALUES %	ANNUITY BENEFIT %	DIVI-DENDS %
1900	9	55.6	22.2	0	11.1	0	11.1
1910	17	41.2	23.5	0	17.6	0	17.6
1920	42	42.8	19.0	0	19.0	0	19.0
1930	135	31.1	8.1	1.5	29.9	1.0	29.6
1940	168	29.8	14.3	1.8	32.1	4.2	17.9
1950	239	36.0	14.6	1.7	22.2	8.4	17.2
1960	560	35.0	8.2	0.9	23.0	13.4	19.5
1970	1,304	34.7	5.7	1.1	20.6	19.9	17.9
1975	1,849	35.1	4.2	1.2	14.0	25.0	19.5
1980	4,040	26.8	2.2	1.4	14.3	40.1	15.2
1982	6,059	21.3	1.3	1.2	17.0	45.4	13.7

Source: Canadian Life Insurance Facts, various issues.

Further details on life insurers expenditures are shown in Table 9 for the period 1981-83. The largest category of expenditures is the increase in actuarial liabilities. The third row shows Statistics Canada's estimates of the increase in actuarial liabilities

while the bottom row shows the amounts actually reported. The discrepancy between these figures is quite large. Note that premium taxes in 1983 were $73 million or 0.6% of total expenditures.

Table 9

LIFE INSURERS' EXPENSES (Millions of $)

	1981		1982		1983	
	$	%	$	%	$	%
Ins. claims incurred	2,407	21.2	2,647	21.6	2,642	21.0
Annuity claims incurred	1,994	17.5	2,447	19.9	2,392	19.0
Normal Increase in Actuarial Liabilities*	3,860	33.9	3,641	29.7	3,783	30.0
Dividends to policy holders	781	6.9	836	6.8	873	6.9
Commissions	506	4.4	551	4.5	607	4.8
Salaries [a]	754	6.6	854	7.0	919	7.3
Interest	281	2.5	338	2.8	353	2.8
Depreciation	40	0.4	55	0.4	66	0.5
Premium Taxes	64	0.6	65	0.5	72	0.6
Other Expenses	686	6.0	835	6.8	889	7.1
Total Expenses	11,374	100.0	12,270	100.0	12,596	100.0
* Actual Amounts Reported	3,250		3,073		3,499	

a. Includes contributions to staff benefit plans.

Source: Statistics Canada, Financial Institutions, various years.

Life insurers' revenues for the period 1981-1983 are shown in Table 10. In 1983, the largest revenue categories were interest income, 34.6%, insurance premiums, 34.3%, and annuity considerations, 24.0%. Dividends at 2.1% and rental income from real estate at 4.0% are minor revenue categories. Note the premium taxes in 1983 represented 1.6% of insurance premiums.

Table 11 shows the assets held by life insurance companies. Bonds were the largest category of assets in 1982 at 37% of total assets. Over the period 1959 to 1970, the pro-

Table 10

LIFE INSURERS' REVENUES

(Millions of $)

	1981		1982		1983	
Insurance Premiums	4,147	34.8	4,319	33.6	4,491	34.3
Annuity Considerations	3,649	30.6	3,675	28.6	3,143	24.0
Interest	3,458	29.0	4,085	31.8	4,528	34.6
Dividends	217	1.8	232	1.8	275	2.1
Rental Income from Real Estate	338	2.8	441	3.4	529	4.0
Mgt. Fees from Seg. Funds	27	0.2	23	0.2	30	0.2
Other Revenues	89	0.7	69	0.5	108	0.8
Total Revenues	11,924	100.0	12,844	100.0	13,104	100.0

Source: Statistics Canada, Financial Institutions, various years.

portion of assets held in bonds dropped from two-thirds to just over one-third. Corresponding to this decline, the proportion of assets held in mortgages increased over the period 1950 to 1970 as did, to less extent, the proportion held in stocks. The solvency restrictions of the Superintendent of Insurance limit the proportion of total assets that life insurance companies can hold in stocks to less than 25% of total assets.[37] The figures in Table 11 indicate that at the aggregate level this restriction has not been binding.

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[37] See Mathewson et al. (1983, pp.20-21) on the regulation of the life insurers' investments.

Table 11

LIFE INSURANCE ASSETS

YEAR	TOTAL (MILLIONS of $)	PERCENTAGE HELD IN: BONDS	STOCKS	MORT. LOANS	REAL ESTATE[a]	POLICY LOANS	CASH	OTHER ASSETS
1900	108	52.8	b	25.0	5.6	7.4	1.9	7.4
1910	212	49.1	b	30.7	3.3	11.8	1.4	3.8
1920	537	53.8	4.7	23.3	3.4	9.9	1.1	3.9
1930	1,491	43.7	10.7	26.0	3.2	12.7	0.8	3.0
1940	2,256	59.2	8.0	16.0	3.6	9.4	1.2	2.7
1950	4,076	67.3	3.4	19.6	1.5	4.4	1.2	2.5
1960	8,260	48.3	3.1	37.6	3.6	4.4	0.6	2.5
1970	15,673	36.3	7.1	43.9	4.7	5.1	0.9	2.0
1980	43,916	36.2	13.0	37.4	4.2	4.4	1.6	3.2
1982	54,108	37.0	11.4	34.5	5.5	5.0	2.6	4.1

Notes: a. Includes ground rents from 1967 on.
b. Included in bonds.
Source: CLIF, 1983.

5.2 An Empirical Analysis of The Trend in Cash-Value and Term Life Insurance

In the previous section, three factors that may have been responsible for the relative decline in individual life insurance were discussed. Since these factors operate on the demand side of the market, we will begin by briefly reviewing the theoretical and empirical literature on the demand for life insurance.

The most important papers on the theory of the demand for life insurance are by Yaari (1965) and Fisher (1973). Yaari developed a model of optimal consumption behaviour for a consumer who receives an exogenous income stream until his death which occurs at an uncertain date in the future. The consumer's utility function is increasing and concave in consumption. Yaari modeled the decision to purchase life insurance in two alternative frameworks. In the first framework, the individual is constrained to have non-negative wealth at the time of death. Life insurance allows the individual to be a net borrower and still satisfy this constraint. In the second framework, the individual

derives utility from bequests, as well as from consumption, and this provides a rationale for holding life insurance, especially when net worth is low and the value of bequests is high. Yaari's analysis is conducted at a high level of rigour and sophistication, and his conclusions are very general. He shows that the equation which describes the growth rate of consumption when the individual has access to a life insurance market resembles the equation for the growth rate of consumption when the time of death is certain. Thus with life insurance, consumption is independent of the probability of death at any point in time, although the overall consumption path is affected by the probability of death insofar as it affects the cost of life insurance. This conclusion is hardly surprising since the purpose of life insurance is to remove this uncertainty.

Fisher (1973) analyzed the demand for life insurance making more restrictive assumptions than Yaari. Fisher's most important assumption is that the consumer has a constant relative risk aversion utility function and that the utility of bequests is proportional to the utility from consumption. The predictions of the Fisher model are that:

1. life insurance purchases will increase as non-human wealth increases if the return on life insurance is sufficiently high;
2. increases in labour income will lead to increases in life insurance purchases;
3. an increase in the rate of return on life insurance will lead to an increase in the face value of life insurance policies; and
4. an increase in the rate of return on bonds has an ambiguous effect on purchases of life insurance.

There have been a number of empirical studies of the demand for insurance. First we will review the studies which used individual household data. Hammond, Houston and Melander (1967) analyzed the life insurance expenditures of U.S. households in 1952 and 1961. (There were 2,114 observations for 1961.) They found that premiums increased with income but the income elasticity was less than one. They also found that net worth

and the presence of children in a family had a positive effect on life insurance purchases. Anderson and Nevin (1975) analyzed the amount and type of life insurance purchased by 230 young married couples in Peoria and Decatur, Illinois in 1969. They found that net worth, expected income in 10 years, and the wife's insurance purchases before marriage had a significant positive effect on the amount of life insurance purchased. Education and the husband's insurance purchased before marriage had a signficant negative effect on the amount purchased. The only significant explanatory variable for the percentage of term insurance purchaed was the wife's insurance purchases before marriage and this had a positive effect. Geistfeld (1976) analyzed the life insurance held by 70 families in the U.S. in 1968-69. The net premium per $1,000 of protection had a negative effect on the amount purchased. The estimated elasticity of demand was -0.15. Monthly income had a positive effect with an income elasticity of less than one. For every dollar of group life insurance, individual life was reduced by $0.275. The value of the family's securities had a positive effect on life insurance purchased. Finally, Lewis (1985) tested a model of life insurance purchases using data on 150 households in the U.S. in 1976. In contrast with the other empirical studies reviewed here, Lewis derived an explicit demand function for insurance purchases using the constant relative risk aversion utility function. A novel aspect of Lewis' model is that the wife and offspring in a family are viewed as making the decision concerning the amount of life insurance to be purchased to replace the husband/father's income if he dies. From data on households' incomes, assets, life insurance and other characteristics, Lewis was able to estimate a parameter of the life insurance demand function which, according to his model, is to be interpreted as the coefficient of relative risk aversion. Lewis' estimate of this parameter, 1.2, is reasonably close to that obtained by Friend and Blume (1975) who concluded, from data on household's portfolio behaviour, that the parameter is around 2.

The most important study of aggregate life insurance holdings in the U.S. was by Fortune (1973). He estimated a regression equation using quarterly data for the period 1964-71 with real net life insurance in force per capita as the dependent variable. Net life insurance is defined as the total life insurance in force in the U.S. less total life insurance policy reserves. The independent variables were real wage and salary income per capita, real per capita wealth, real interest rates on corporate bonds, an index of consumer sentiment, a time trend, and seasonal dummies. Fortune found that the wage, interest rate and consumer sentiment variables had significantly positive coefficients while the wealth variable and the time trend had significant negative coefficients. It should be noted that since Fortune's dependent variable is pure insurance coverage his results are probably more applicable to term insurance than to cash-value insurance.

To summarize, the theoretical and empirical literature on the demand for life insurance suggests that the amount of life insurance purchased should be positively related to future wage income insofar as household are concerned with replacing the income of a breadwinner in the event of death. The effect of non-human wealth on life insurance purchases is, in general, ambiguous. The cross-section studies tend to show a positive relation while Fortune's study using aggregate time series data found a negative relation. Similarly the effects of the rate of return on life insurance and the rate of return on bonds are, in general, ambiguous. However, since there is some empirical evidence that life insurance is a normal good, one would expect that an increase in the rate of return on life insurance would lead to an increase in the amount of coverage. Offsetting income and substitution effects make the effect of an increase in the real rate of return on bonds indeterminate. Fortune found that the real interest rate on bonds had a positive effect on pure insurance coverage. Finally, there is some evidence that group life is a substitute for individual life, but the replacement rate is less than dollar for dollar.

Our analysis is based on aggregate annual data on individual cash-value and term life insurance over the period of 1964-1982. Our regressions are based on the following reduced form equations for the proportions of human capital covered by cash-value and term life insurance:

$$C/H = a1 + a2\ G/H + a3\ W/H + a4\ I + a5\ DI + a6\ R \quad (5.1)$$

$$T/H = b1 + b2\ G/H + b3\ W/H + b4\ I + b5\ DI + b6\ R \quad (5.2)$$

where:

- o C is total cash-value life insurance in force;
- o T is total term life insurance in force;
- o G is total group life insurance in force;
- o H is total human capital;
- o W is total (non-human) wealth;
- o I is the real rate of return on cash-value life insurance;
- o D is a dummy variable which has a value of one, over the period 1969-82 when policy holders' income was taxed; and
- o R is the real rate of return on bonds.

The predictions of the model are summarized in Table 12. We expect group life to be a substitute for cash-value and term life insurance and that the substitution effect between group and term will be stronger than the substitution effect between group and cash-value because group and term represent similar types of coverage. A priori, the coefficients for W/H have an ambiguous sign. However, if we think of cash-value life insurance as a savings account plus term insurance, then the effect of an increase in wealth on cash-value insurance could be decomposed as a3=c3+b3, where c3 is the "savings account" effect and b3 is the "term insurance" effect. The sign of b3 is ambiguous, but we expect c3 to be positive since cash-value life insurance represents a way of hold-

ing wealth. Consequently, we expect that a3 - b3 > 0. The real rate of return on cash-value life insurance should have a positive effect on the demand for cash-value life insurance if it is a normal good. The coefficient b4 should be negative if term life insurance is a substitute for cash-value life insurance. Recall that income from cash-value life insurance was taxed after 1969 and, the slope dummy on I has been included in the regression equation to capture the effects of the change in the tax system. We expect the coefficient on the slope dummy in the equation for C/H to be negative to the extent that the tax changes reduced the real after-tax return on cash-value life insurance. Similarly, we expect b5 to be positive if term insurance is a substitute for cash-value life insurance. If TAU is the tax rate on investment income from cash-value life insurance after 1969, then it should be equal to -a5/a4 = -b5/b4. Finally, the coefficients for R have an ambiguous sign. However, if we think of cash-value life insurance as a savings account plus term insurance, then the effect of an increase in the real rate of return on bonds could be decomposed as a6 = c6 + b6, where c6 is the "savings account" effect and b6 is the "term insurance" effect. The sign of b6 is ambiguous, but we expect c6 to be negative because an increase in the real rate of return on bonds, holding the real rate of return on cash-value insurance constant, should reduce the attractiveness of cash-value insurance as a means of holding wealth. Consequently, we expect that a6 - b6 < 0.

Table 12

PREDICTIONS OF THE MODEL

```
0 > a2 > b2 >= -1
a3, b3 unsigned;  a3 - b3 > 0
a4 > 0;  b4 < 0
a5 < 0;  b5 > 0;  -a5/a4 = -b5/b4 =  TAU
a6, b6 unsigned;  a6 - b6 < 0
```

In estimating equations (5.1) and (5.2), we have used data on cash-value, term, and group life insurance in force from the *Canadian Life Insurance Fact Book*. In computing

total human capital, we have taken the annual figures on wages, salaries and supplementary labour income, S(t), from the National Income and Expenditure Accounts and applied the formula:

$$H(t) = S(t) \sum_{j=1}^{20} (1+0.05)^{-j} \qquad (5.3)$$

Thus H is the present value of labour income, computed over a 20 year horizon and discounted at a five percent interest rate. Although the 20 year horizon and the five percent discount rate are somewhat arbitrary and the assumption of constant future labour income is simplistic, we feel that (5.3) represents a reasonable way of approximating H.

The attached graph shows C/H, T/H, and G/H, as well as L/H, which is the total of the three forms of life insurance as a proportion of human wealth, over the period of 1964-82. Note that C/H decreased from 0.0905 to 0.0373 while G/H increased from 0.0758 to 0.127 over this period. T/H was approximately 0.04 from 1964 to 1977, and then increased to 0.0536 by 1982. Note that because of the off-setting trends in C/H and G/H, the changes in L/H were relatively small. (The mean of L/H was 0.201 and the standard deviation was 0.00827.) L/H decreased from 0.206 in 1965 to 0.186 in 1974 and then increased to 0.217 in 1982.

The data sources for the other variables are as follows. W is the net worth of persons and unincorporated businesses from Statistics Canada (1985) *The National Balance Sheet Accounts, 1961-1984.* I is the rate of return on cash-value life insurance as computed by Mathewson and Winter (1984) less the expected inflation rate as estimated by Riddell and Smith (1982).[38] R is the rate of return on long-term government bonds, as contained in Mathewson and Winter (1984), less the expected rate of inflation.

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38 The Riddell and Smith expected inflation rate series had to be extrapolated for 1981 and 1982.

Figure 5.1

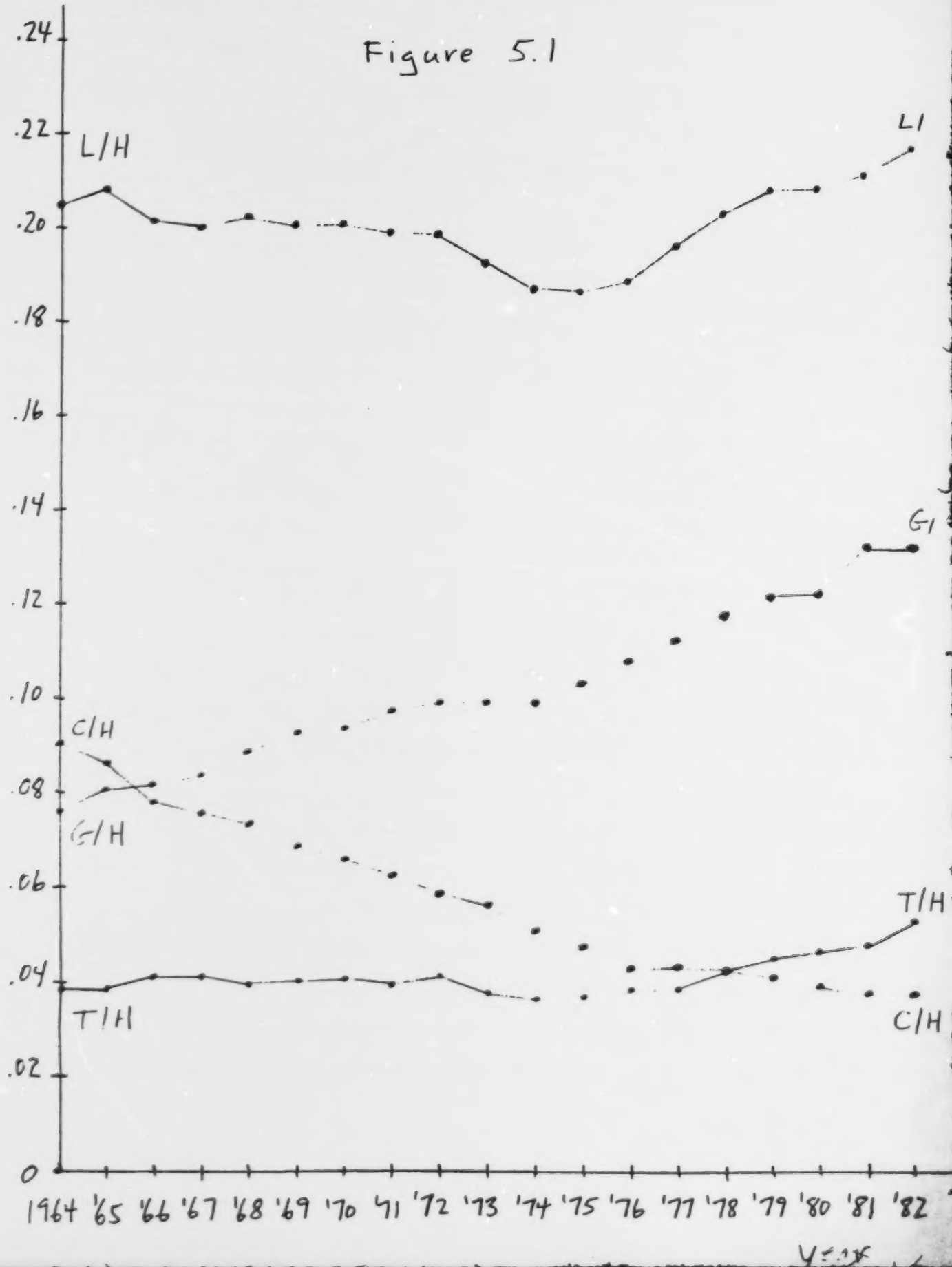
.24
.22
.20
.18
.16
.14
.12
.10
.08
.06
.04
.02
0
L/H
L1
G1
C/H
G/H
T/H
T/H
C/H
1964 '65 '66 '67 '68 '69 '70 71 '72 '73 '74 '75 '76 '77 '78 '79 '80 '81 '82
YEAR

Table 13

DATA FOR REGRESSIONS

Year	C/H	T/H	G/H	L/H
1964	.0905	.0388	.0758	.2050
'65	.0867	.0390	.0801	.2058
'66	.0787	.0406	.0816	.2009
'67	.0752	.0405	.0843	.2000
'68	.0740	.0398	.0890	.2028
'69	.0682	.0400	.0923	.2005
'70	.0657	.0402	.0943	.2002
'71	.0622	.0398	.0968	.1989
'72	.0586	.0407	.0997	.1990
'73	.0559	.0373	.0999	.1931
'74	.0502	.0363	.0997	.1862
'75	.0466	.0366	.1032	.1865
'76	.0432	.0383	.1071	.1887
'77	.0439	.0389	.1127	.1956
'78	.0429	.0429	.1175	.2032
'79	.0415	.0449	.1220	.2084
'80	.0397	.0466	.1229	.2091
'81	.0373	.0476	.1265	.2116
'82	.0373	.0536	.1265	.2175

The equations were estimated on annual data for the period 1964 to 1982 with an adjustment for first-order autocorrelation, and the results are shown in Table 14. The autocorrelation parameter, RHO, was estimated using the Beach-MacKinnon algorithm. In equation (5.4) with C/H as the dependent variable, all of the coefficients are significantly different from zero at the five percent level, except the coefficient for R. The coefficient for G/H is negative, and the hypothesis that it equals -1 can be rejected at the five percent level. The coefficient for W/H is positive and less than one. The wealth elasticity of C, calculated at the sample means, is 1.24. The coefficient for I is positive as hypothesized. The coefficient on the slope dummy, DI, is negative, and this is consistent with the interpretation of the slope dummy as showing the effect after 1969 of the taxation of policy holder's income on cash-value life insurance. The effective tax rate can be interpreted as -a5/a4. This is approximately 0.63 which seems rather high. However, it is recognized that the attempt to capture the effect of changes in the tax system

after 1969 through the slope dummy is rather crude, and it may be capturing the effects of other variables. Finally, the R-bar-squared is high, and the estimated value of RHO is not significantly different from zero at the five percent level.

Table 14

CASH-VALUE AND TERM LIFE INSURANCE REGRESSIONS

Equation Number	(5.4)	(5.5)
Dependent Variable	C/H	T/H
Constant	0.07245 (9.64)	-0.01156 (2.12)
G/H	-0.7998 (13.72)	0.1788 (4.12)
W/H	0.1955 (10.72)	0.07777 (5.73)
I	0.3699 (3.36)	-0.1203 (1.43)
DI	-0.2326 (2.29)	0.08359 (1.07)
R	0.02646 (0.66)	0.1407 (4.71)
$\overline{R}^2$	0.9928	0.9711
DW	2.12	1.90
RHO	-0.2465 (0.95)	-0.4798 (1.62)

Absolute values of t-statistics are shown in brackets.

Turning to equation (5.5) with T/H as the dependent variable, we see that all of the coefficients are significant by the t test except those for I and DI. (However, it is interesting to note that b4 and b5 have the hypothesized sign and that their ratio, 0.69, is remarkably similar to that obtained from the estimates of a4 and a5 in equation (5.4).)

Contrary to expectations, the coefficient for G/H is positive. This result may indicate that term and group life are complementary. That is, households purchase term insurance to supplement their group coverage. The coefficient for W/H is positive and a3 - b3 is positive as hypothesized. The wealth elasticity of T, calculated at the sample means is 0.69. Note that b6 is positive and that the point estimate of (a6 -b6) is negative as hypothesized. Finally, the R-bar-squared is high and the estimated value of RHO is not significantly different from zero at the five percent level.

Equations (5.1) and (5.2) were also estimated using the seemingly unrelated regression technique to obtain estimates of c3 and c6 and their standard errors and to test the restriction that a5/a4 = b5/b4 =TAU. The estimate of c3 is 0.1116 with a t-statistic of 4.50, the estimate of c6 is -0.1133 with a t-statistic of 2.17, and the estimate of TAU is 0.6059 with a t-statistic of 4.96. All of these coefficients have the predicted sign and are significant at the five percent level by the (one-tail) t-test. The restriction that a5/a4 = b5/b4 cannot be rejected at the five percent level by the likelihood ratio test. Thus the estimated equations satisfy most of the predictions of the model. The main exception is the sign of the coefficient for G/H in equation (5.2).

In estimating (5.1) and (5.2) it has been assumed that G/H was an exogenous variable. However, it might be argued that group life coverage is an endogenous variable and that G, C, and T are jointly determined. Attempts to estimate (5.1) and (5.2) treating G/H as an endogenous variable using two stage least squares and full information maximum likelihood techniques did not prove successful. All of the estimated coefficients were insignificant by the t-test. The difficulties in applying these techniques arise from the small number of observations and the lack of explanatory variables for the level of group coverage. In any event, the process by which G is determined is different from the process which determines C or T since the extent of group coverage depends, in part, on employers' decisions or the collective decisions of employees. Our model treats individual pur-

chases of life insurance as adjusting to the pre-determined level of coverage. This may be a reasonable approximation to household behaviour, if we think of households as first choosing their level of group coverage (assuming that they are eligible) and then deciding on their individual life insurance coverage.

To summarize, a key determinant of the amount of life insurance demanded by households is future labour income. Our regression model has attempted to explain the proportion of human capital that households want to cover through cash-value and term life insurance. Economic theory and previous empirical studies suggest that these proportions will be influenced by households' net worth, the real rate of return on cash-value life insurance, group life coverage, and the real rate of return on bonds. The regression results indicate that cash-value and term life insurance holdings increase as net worth increased with the effect on cash-value life insurance being larger than the effect on term insurance. The level of cash-value life insurance in force responds positively to the real rate of return on these policies. There is also some evidence that the change in the tax system in 1969 reduced cash-value life insurance, although the method of capturing this effect - a slope dummy on the real rate of return on cash-value life insurance - is admittedly rather crude and may be incorporating other changes over the 1969-82 period. The current real interest rate on bonds has no effect on cash-value coverage, but a positive effect on term coverage. Finally, group life insurance appears to be a very good substitue for cash-value life insurance, and complementary with term life coverage. That is, households buy term coverage to supplement their group coverage. (This hyposthesis, that group coverage has a positive "demonstration effect" on term coverage, is rather speculative.) Thus while changes in other factors, such as the age composition of the population, life expectancy, the pension and welfare system, and labour force participation by married women may have influenced the trend in cash-value and term life insurance over the 1964-82 period, the economic variables included in this study seem to have played a major role.

Chapter 6

THE EFFECTIVE TAX RATE ON INCOME EARNED THROUGH LIFE INSURANCE COMPANIES

6.1 Effective Tax Rates Under the Personal Income Tax

Under a comprehensive income tax, the income earned on a life insurance policy should be taxed as it accrues. Otherwise, a tax advantage will be conferred because taxes are deferred until the policy is surrendered or may be entirely avoided if the policy is terminated by the death of the insured. Under the recent personal income tax amendments that were discussed in Chapter 3, the income from "non exempt" policies will be taxed on an accrual basis (with the provision that, at the option of the taxpayer, income may accrue for three years before taxes are imposed). The income earned on "exempt" policies will not be taxed on an accrual basis, and therefore these policies will continue to benefit from tax deferral on investment income. Since most policies will be exempt, we will focus our attention on the calculation of the effective tax rate under the personal income tax on the income from exempt policies. These effective tax rates, when compared with the statutory rate, provide some indication of the extent to which this form of investment income benefits from tax deferral. In the next section, we also calculate the effective tax rate from premium taxes. These two tax parameters would play a key role in a comprehensive study of the effective tax rate on investment income, such as that performed by King and Fullerton (1984). The final sections of this chapter provide an overview of King and Fullerton's results on the effective tax rate on income received through the insurance industry and outlines the way in which the King-Fullerton analysis could be applied to Canada. The method developed in these sections has been applied to Canadian data by Daly, Jung, Mercier and Schweitzer (1985).

The effective tax rate (ETR) will be defined as the present value of income taxes paid divided by the present value of the investment income stream earned by the policy. The investment income stream earned in period t, Y(t) is the following:

$$Y(t) = (AF(t) - AF(t-1))\ F + (1-AF(t))\ F\ q - (P - D) \qquad (6.1)$$

where AF(t) is the accumulating fund per $1 of coverage, F is the face value of the policy, q is the probability of death, P is the premium, and D is the dividend. In computing Y(t) we have had to use the gross premium, which includes loading costs, rather than the net premium. This implies that all of the loading costs are assumed to be related to the generation of investment income on the policy and that none are associated with the protection element of the policy. Thus, the computed Y(t) will tend to understate the actual investment income. This feature is accentuated by the fact that most of the loading costs are incurred in the first few years that the policy is in place. Thus our procedure assumes that the investment expenses can be immediately written off.

As noted in Chapter 3, the personal income tax paid on an exempt policy depends on whether the policy is surrendered or held until death and, in either case, on the number of years that the policy was in force before it was terminated. Thus in computing the ETR we consider two general cases - termination by surrender and termination by death - and in each case the ETR is computed for alternative assumptions about the number of years that the policy was in force before it was terminated. An exempt policy will result in a tax liability in year t if the adjusted cost basis (ACB(t)) is negative.[39] The ACB(t) is the cumulative sum of premiums less the net cost of pure insurance and policy dividends (which we assume are taken in cash).[40] The taxable income, in this case, is the amount

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39 Strictly speaking, the ACB is never negative as it is defined as the amount by which the additions (premiums, etc.) exceed the subtractions (dividends, net cost of pure insurance, etc.) Here the ACB is considered to be simply the additions minus the subtactions, so it can be negative in this sense.

40 This assumption is required by the absence of data on the conversion rate of dividends into paid-up additions (additional insurance). However, it is believed that for

by which the dividend exceeds the premium or:

$$YT(t) = D - P, \text{ if } ACB(t) < 0 \text{ and } D - P > 0 \qquad (6.2)$$
$$= 0 \quad \text{if } ACB(t) > 0 \text{ or } D - P < 0$$

If YT(t) >0, ACB(t) is set equal to zero in computing the ACB (t+1).

If the policy is surrendered in period n, the taxable income is the following:

$$YTS(n) = CV(n) - ACB(n) \qquad (6.3)$$

where CV(n) is the cash surrender value, which in most cases will be equal to the accumulating fund. Thus if the policy is surrendered in year n, the effective tax rate is the following:

$$ETRS = m\left(\sum_{t=1}^{n} YT(t)\,(1+i)^{-t} + YTS(n)\,(1+i)^{-n}\right) \Big/ \sum_{t=1}^{n} Y(t)\,(1+i)^{-t} \qquad (6.4)$$

where m is the marginal personal income tax rate which is assumed to be constant over the entire period and i is the discount rate.

If the policy is terminated by the death of the insured in year n, then no tax is payable on the receipt of the death benfit and the effective tax rate is computed as the following:

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most companies taking dividends in cash is at least as popular as other dividend options.

$$ETRD(n) = m \left(\sum_{t=1}^{n} YT \, (1+i)^{-t}\right) \Big/ \left(\sum_{t=1}^{n} Y(t) \, (1+1)^{-t}\right) \qquad (6.5)$$

We have also computed the expected effective tax rate on a policy held until death as the following:

$$EXP(ETRD) = \sum_{t=1}^{n} q^*(x,t) \, ETRD(t) \qquad (6.6)$$

where $q^*(x,t)$ is the probability that an individual at age x, purchasing the life insurance policy, will live for t years and then die.

Table 15 shows the effective personal income tax rates on a whole life policy purchased by a male at age 35. The face value of the policy is $50,000, and the marginal personal income tax rate is assumed to equal 0.35. Data on premiums, cash value and dividends are based on a London Life whole life policy as described in Stone and Cox, *Life Insurance Tables 1984.*[41] The CIA69-75 (male) mortality table has been used to compute the net cost of pure insurance and the expected effective tax rates for policies held until death. The table shows how the ETR depends on the discount rate, whether the policy is terminated by surrender or death, and the length of time the policy was in force before it was terminated.

For policies terminated by surrender, the ETR is less than the assumed statutory rate of 0.35 because most of the tax payments are deferred until surrender.[42] The advantage

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41 This source gives specimen values for CV and D. To obtain a complete set of values for the computations in Table 15, values of CV and D had to be interpolated and extrapolated by the authors. It was assumed that the policy terminates automatically if the insured reaches the age of 100.

42 If a policy is surrendered after 30 years and the discount rate is eight percent, then the present value of the taxes paid on the YTS component is 72% of the total.

of tax deferral is greater the longer the policy is held, and the higher the discount rate.[43] If the discount rate is eight percent and the policy is surrendered after 30 years, the effective tax rate is 0.177 when the statutory rate is 0.35, and the present value of the tax advantage from deferral is $1,216 on a $50,000 policy.

For policies terminated by the death of the insured there is no tax on the death benefit received and therefore YT is the only component of taxable income. For this policy, YT is zero for the first 22 years and therefore the ETR is zero over this period. For periods over more than 22 years, YT is positive. ETR is also positive and increases with the length of the period before insured dies. At an eight percent discount rate, the expected effective tax rate on a policy held until death is 0.076 when the statutory marginal tax rate is 0.35 and the present value of the tax advantage is $2,427 on a $50,000 policy.[44]

To summarize, Table 15 indicates the effective personal income tax rates on investment income from exempt life insurance policies is less than the statutory marginal rate on other forms of income because of the advantages of tax deferral accorded to policies which are surrendered and the exclusion from taxable income of a significant proportion of the investment income on policies held until death. If the marginal personal income tax rate on other forms of income is 0.35 and the discount rate is 0.08, our calculations indicate that the effective personal income tax rate on a policy surrendered after 30 years is 0.177 and the expected effective tax rate on a policy held until after death is 0.076. We believe that our calculated effective tax rates are over-estimates of the actual effective tax rates, in so far as our procedure underestimates the present value of the investment income from the policy by allowing the deduction of all loading costs from

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43 Twenty years is the shortest surrender period shown in Table 15 because Y(t) is negative for the first four years. Thus a short surrender period is not in the insured's interest.

44 The 35% rate is only an estimate as no data exists on the average marginal tax rate applying to life insurance income. However, since it is only a scale factor, the results can easily be adjusted to any desired tax rate.

Table 15

EFFECTIVE PERSONAL INCOME TAX RATES

A. POLICIES TERMINATED BY SURRENDER

DISCOUNT RATES	0.04	0.08	0.12	0.16
POLICIES SURRENDERED AFTER:				
20 years	0.300	0.263	0.242	0.249
30 years	0.242	0.177	0.132	0.105
40 years	0.208	0.140	0.094	0.069

B. POLICIES TERMINATED BY DEATH

DEATH OCCURS AFTER:				
20 years	0.000	0.000	0.000	0.000
30 years	0.062	0.050	0.041	0.035
40 years	0.103	0.080	0.062	0.050
EXPECTED EFFECTIVE TAX RATES ON POLICIES HELD UNTIL DEATH	0.099	0.076	0.057	0.046

Notes: F = $50,000, and m = 0.35
Calculations are based on a London Life whole life policy.
See Stone and Cox (1984) Life Insurance Tables pp.315-323.

the investment income. Furthermore, our computations assume that all dividends are taken in cash. If some or all of the dividends were instead used to purchase paid-up insurance up to the prescribed limit for an exempt policy, the ETR would be even lower.

6.2 Effective Tax Rates from Premium Taxes

Another major tax on life insurance is the premium tax levied by the provincial governments. As discussed in Chapter 3, nine provinces impose a tax on life insurance companies of 2% of gross premiums net of policy dividends paid. Newfoundland imposes a similar tax but at a 3% rate. Premium taxes are very difficult to fit into the King-Fullerton framework because they tax the premiums paid rather than the income earned. Also, premiums paid includes not just a savings contribution but also a payment for protection. A further complication is that the corporate- level taxes are deductible for corporate income tax purposes.

One approach to including premium taxes in the King-Fullerton framework is to treat them as if they were imposed at the policyholder level. This can be incorporated in the model as a relatively simple extension of the calculations for the sample policy performed above. The effect of this approach is to over-estimate the tax burden since it does not take into account their deductibility in computing corporate income tax. The effective premium tax rates shown in Table 16 have been calculated as the ratio of the present value of the premium taxes paid to the present value of the investment income. These effective tax rates fall the longer the policy is in force before it is terminated and generally increase as the discount rate increases. (An increase in the discount rate tends to reduce the present value of the investment income at a faster rate than the present value of the premium taxes because while investment income is earned over the entire period, premium taxes are only paid while premiums exceed dividends.)

Table 16

EFFECTIVE PREMIUM TAX RATES

NUMBER OF YEARS THE POLICY IS IN FORCE	DISCOUNT RATES 0.04	0.08	0.12	0.16
20 years	0.016	0.025	0.041	0.073
30 years	0.007	0.014	0.025	0.048
40 years	0.005	0.011	0.021	0.043

Source: See Table 15

6.3 The King-Fullerton Analysis of the Effective Tax Rate on Income Earned through Insurance Companies

One reason for the recent interest in the taxation of life insurance is that the King and Fullerton (1984) study of the taxation of capital income in the United Kingdom, Sweden, West Germany, and the United States found that the effective tax rate on income received through insurance companies was lower than that on capital income received directly by households. The effective tax rate computed by King and Fullerton is the wedge between the real pre-tax rate of return earned on an asset, p, and the real after-tax rate of return earned by the saver, s, expressed as proportion of p.[45] This tax rate was computed by King and Fullerton on the income earned on an increase in the capital stock in the non-financial corporate sector of the economy. They calculated the effective tax rates on three assets - machinery, buildings, and inventories - in three industries - manufacturing, other industry, and commerce - from three sources of finance - debt, new shares, and retained earnings - held by three ownership categories - households, tax-exempt institutions, and insurance companies.

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45 For a review of effective tax rate studies, see Fullerton (1984).

We will focus on King and Fullerton's effective tax rate for the United States in 1980 on funds channelled through insurance companies. Since life insurance companies account for about 70 percent of the equities and bonds of the non-financial corporate sector held by the insurance industry, most of their attention is focused on the tax treatment of life insurance income.[46] King and Fullerton assume that marginal tax rate under the personal tax is zero because of the non-taxation of death benefits and the tax advantages of deferral on benefits taken before death. Thus, King and Fullerton maintain that the corporate tax system, and the Menge formula in particular, determine the effective tax rate on life insurance. The Menge formula resulted in higher tax rates for life insurers as nominal interest rates rose and this is reflected in King and Fullerton's expression for the effective tax rate on life insurance interest income, 4.6 (i-0.03) where i is the nominal interest rate. With i=0.05 +PI, where PI is the rate if inflation, the formula for the effective tax rate becomes (0.092+4.6PI). Using this formula for 1980, with the actual rate of inflation, King and Fullerton calculated that the effective tax rate was 23.4 percent for insurance companies, 57.5 percent for households, and -21.5 percent for tax-exempt institutions, such as pension funds, resulting in an overall effective tax rate of 37.2 percent.[47] Thus the tax system favours the channelling of investment in the non-financial corporate sector through the insurance industry, though not to the same extent as in the case of the tax-exempt institutions.

In assessing the King-Fullerton results, the following points should be noted. First, King and Fullerton assume a zero marginal tax rate on life insurance income under the personal income tax in the United States and ignore the premium taxes levied by state governments. In the preceding sections, we have shown that in Canada the effective tax

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46 See Neubig and Steuerle (1984)

47 See King and Fullerton ((1984,p.244). The effective tax rate on income received through life insurance was less than this since non-life insurance companies were assumed to pay a marginal corporate tax rate of 0.46 on interest income whereas at the actual inflation rate of 6.77% the effective tax rate for a life insurer was 0.40.

rate from the personal income tax and premium taxes is not negligible.

Second, as the King-Fullerton formula clearly demonstrates, the effective rate tax for the life insurance industry in the U.S. is highly sensitive to the assumed rate of inflation. For example, King and Fullerton found that at a zero rate of inflation the 1980 effective tax rates in the U.S. for households, tax-exempt institutions, and insurance companies were 44.1%,4.0% and 4.0% respectively and at a 10% inflation rate the effective tax rates were 61.9%, -37.2% and 44.3% respectively. Thus the magnitude of the effective tax rate on insurance company income increases dramatically with the rate of inflation, and the discrepancy between the household rate and the insurance company rate diminishes the higher the inflation. (This is in marked contrast with the behaviour of the eff ctive tax rate on tax-exempt institutions where the discrepancy between it and the household effective tax rate increases with the inflation rate.) These results indicate that any conclusion regarding the magnitude of the effective tax rate on the life insurance industry in the United States and the extent of any favourable tax treatment depends on the assumed rate of inflation.

Third, the King-Fullerton analysis focuses on the effective tax rate on the income generated from an increase in capital in the non- financial corporate sector. In the U.S. in 1980 corporate stocks and bonds represented 47% of the total assets of life insurance companies.[48] Non-corporate financial assets - mortgages, policy loans, and U.S. government securities - make up 43% of total assets.[49] One would expect that the effective tax rate on the income from these non-corporate financial assets would be taxed at a higher rate than the rate on income from non-financial corporate assets, and therefore the King-Fullerton results should not be interpreted as indicating the effective tax rate resulting from a general increase in insurance income in line with the existing portfolio

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48 U.S. Government Publishing Office (1983,p.89)

49 U.S. Government Publishing Office (1983,p.89). The remainder is made up of real estate and miscellaneous assets.

of assets.

Finally, the income generated by investment through the life insurance industry provides an income protection service as well as a financial return to the policy holder. In this respect the life insurance industry is like the banking industry where part of the return on funds invested with these institutions is in the form of a non-taxable banking service and part is a taxable financial return. Thus a comparison of the effective tax rate on funds invested through the insurance industry with the effective tax rate on funds invested through the banking sector would seem to be more appropriate than the comparison with funds directly invested by households. Indeed, King and Fullerton calculated the marginal effective tax rate on funds invested through the banking system at 28.4% which was less than the tax rate on funds that were directly received by households, 32.5%, and quite close to the rate on the insurance companies, 23.4%. These results suggest that, while life insurance may be a tax-favoured conduit for investment income vis-a-vis direct investment income by households, other financial intermediaries may also be tax-favoured. Any conclusions regarding the distortions in investment induced by the tax system would have to be based on an analysis of the effective tax rate on all financial intermediaries, and not just the life insurance industry.

6.4 On Extending the King-Fullerton Approach to Canada

This section shows how the King-Fullerton approach could be extended to Canada. The equations developed for life insurance companies below have been empirically applied by Daly, Jung, Mercier and Schweitzer (1985).

We begin by setting out the basic equations of the King-Fullerton model. For details see King and Fullerton (1984,Chapter 2). Equation (6.7) shows that the real rate of return on financial assets, r, is determined by the nominal rate of return, i, and the rate of inflation, PI:

$$r = i - PI \qquad (6.7)$$

Let RHO be the nominal discount rate which the non-financial firm uses in making its investment decision. The relationship between i which the life insurance company is assumed to pay on life insurance savings and RHO is given by the following:

$$RHO = h(i) \qquad (6.8)$$

The exact form of h(i) depends on the source of finance, and the detailed discussion of this equation will be postponed until we have set out the entire model. The equation linking the firm's discount rate and the real pre-tax rate of return on capital, p, is derived from the profit-maximizing investment behaviour of the firm and is equal to the following:

$$p = (1-A)\ (RHO + DELTA - PI) / (1 - TAU) - DELTA \qquad (6.9)$$

where TAU is the corporate tax rate applying to non-financial corporations, A is the present value of grants and depreciation allowances on a dollar of investment, and DELTA is the physical rate of depreciation. (For simplicity this equation ignores the effect of taxes on wealth and capital gains.) The real after-tax rate of return received by the saver is equal to the following:

$$s = (1-m)\ i - PI \qquad (6.10)$$

where m is the effective marginal tax rate under the personal income tax. Finally, the overall effective tax rate, t, is defined as the wedge between the real pre-tax rate of return on capital and the real after-tax rate of return received by savers as a proportion of the real pre-tax rate of return on capital. This is shown below:

$$t = (p - s) / p \qquad (6.11)$$

King and Fullerton calculated effective tax rates for two different cases. In the fixed - p case, all investment is assumed to earn the same real pre-tax rate of return. In the fixed - r case, all investments are assumed to yield the same real financial rate of return. Figures 6.1 and 6.2 show how the computations of the effective tax rates proceed under these two cases. The numbers in brackets indicate the equations which link the variables.

The crucial relationship between the nominal rate of interest on life insurance savings and the non-financial firm's discount rate is given by (6.8). The economic explanation of the linkage between these two variables depends on whether one is considering the fixed - r case or the fixed - p case. In the fixed - r case, i determines p, while in the fixed - p case the causation runs in the opposite direction. For convenience, the narrative below adopts the fixed - r case. Equation (6.8) has three alternative forms depending on whether the insurance company invests its funds in the debt, new shares issues, or retained earnings of the non- financial sector.

If the insurance company invests in corporate debt, the firm's discount rate is determined by:

$$RHO/(1-TAU) = i \qquad (6.8a)$$

This is the same as the King-Fullerton equation (2.24) and it also applies to investment in corporate debt directly by households or through tax-exempt institutions. The non-financial corporation can pay out a nominal return of RHO before taking into account the deductibility of interest payments for corporate tax purposes. Therefore, taking into account interest deductibility, a nominal return of RHO/(1-TAU) can be paid out as interest to the bond-holder (the insurance company). This is the same amount that can be paid out by the life insurance company to its policyholders in the form of benefit payments since, as demonstrated in the example of insurance company taxation in Chapter

Figure 6.1

Calculation of the Effective Tax Rate for the Fixed - p Case

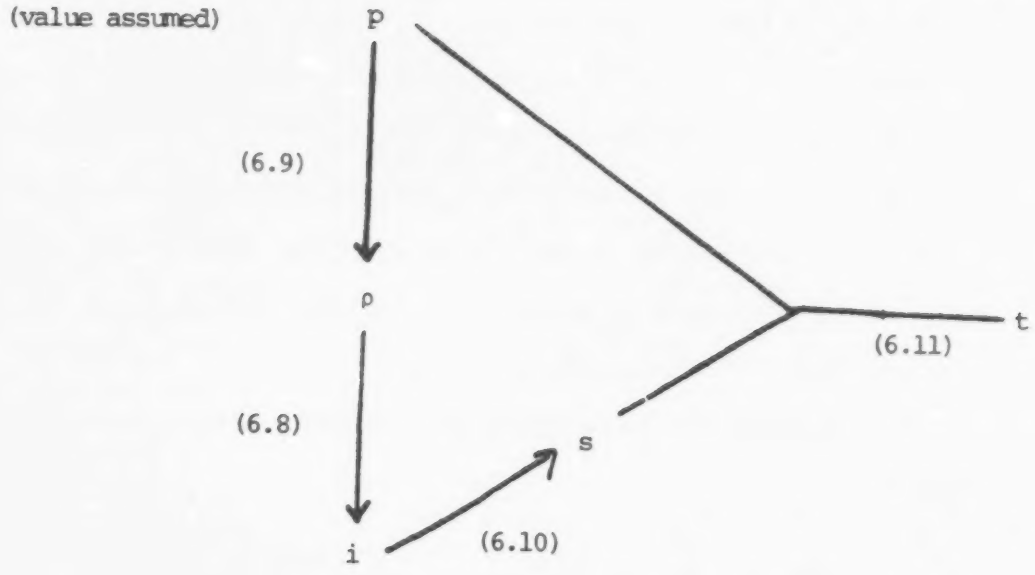
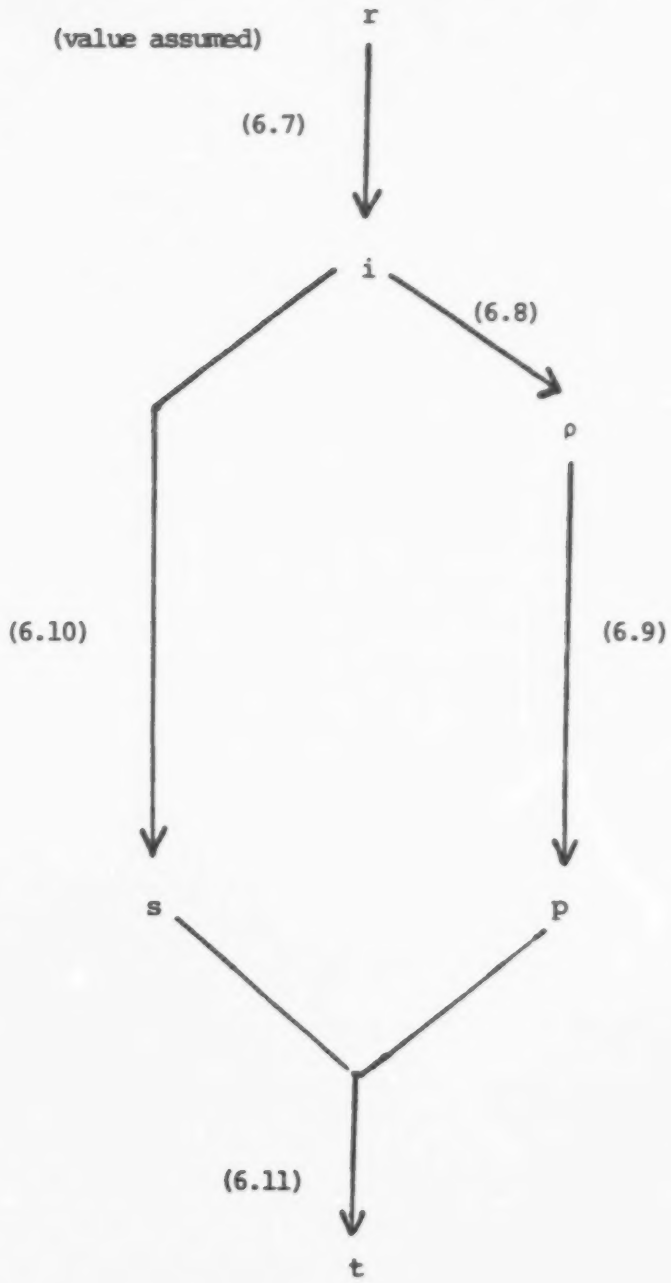


Figure 6.2

Calculation of the Effective Tax Rate for the Fixed - r Case



2, the life insurance company has neither income nor a loss for tax purposes from its role as a zero-profit, zero expense financial intermediary if it invests in bonds and hence receives taxable interest income. The policy reserve deduction completely offsets the interest income inclusion without creating a loss.

If the insurance company invests in new share issues, which provide a return in the form of intercorporate dividends, the equation determing the firm's discount rate is

$$RHO = i\ (1-TAU^*) \qquad (6.8b)$$

where TAU* is the corporate tax rate applying to the life insurance company. The explanation is somewhat tricky. The life insurance company promises a return of i to policyholders. Since the life insurance company's investment income is in the form of intercorporate dividends, which are effectively non- taxable in Canada, there is no income inclusion from investing the policyholder's funds. The policy reserve deduction is still there, however, so the life insurance company has a loss for tax purposes in the amount of i, the return that it has promised to policyholders. Assuming, as King and Fullerton do, that tax losses can be used to offset taxable income from other sources, the tax loss generates tax savings of TAU* multiplied by i. Thus the return which the life insurance company must receive from investing in new share issues is i(1-TAU*). Also, the non-financial corporation can pay out a nominal return of only RHO, instead of the RHO/(1-TAU) of investment in corporate debt, since dividend payments are not deductible for corporate tax purposes. Setting the amount received by the life insurance company equal to the amount paid by the non-financial corporation yields the equation above.

If the life insurance company invests in retained earnings, which generate capital gains, the required equation is

$$RHO = i\ (1 - TAU^*)\ /\ (1 - z^*) \qquad (6.8c)$$

where z* is the accrual-equivalent tax rate on capital gains earned by insurance companies. The explanation involves assembling three facts:

- o The life insurance company promises a return of i to policy holders.
- o Excluding the taxation of the capital gains, the policy reserve deduction would produce a tax loss of i. This occurs for the same reasons as mentioned above for new share issues. The tax saving from this loss would be i multiplied by TAU*.
- o The taxation of the capital gains produces an accrual-equivalent tax of z* multiplied by RHO, since P is the amount of the capital gain.

The equation above is derived from the fact that the amount payable to the life insurance company from the non-financial corporation (RHO) must be equal to the promised return of i to policyholders less the tax savings from the policy reserve deduction plus the capital gains tax.

Following the approach used in King and Fullerton's equation (2.28), z* may be defined as

$$z^* = \text{LAMBDA}\ (0.5\ \text{TAU}^*)\ (1 + \text{RHOp}) \ /\ (\text{LAMBDA} + \text{RHOp}) \qquad (6.12)$$

since one-half of capital gains are taxable on realization, as is the case with other taxpayers. In the above definition, LAMBDA is the proportion of accumulated capital gains realized in each period by the life insurance company and RHOp, the discount rate of the life insurance company, is:

$$\text{RHOp} = i\ (1 - \text{TAU}^*) \qquad (6.13)$$

For life insurance income, King and Fullerton assumed that the personal income tax rate applying to income from savings channelled through life insurance companies is zero. This assumption may be appropriate in the United States since United States tax laws do not reduce the cost of a life insurance policy every year for the net cost of pure

insurance. To apply the King-Fullerton approach to Canada, however, it may be appropriate to set m in equation (6.11) between 0.15 and 0.20. This implies that the effective tax rate on life insurance income from personal income tax and premium taxes is between 15% and 20% (versus an assumed personal marginal tax rate of 35% for annually-taxable interest income.) This range is based roughly on the effective tax rates shown in Tables 15 and 16 for discount rates of 4% and 8% assuming 50% of policies are terminated by surrender after 30 years.

Chapter 7

DIRECTIONS FOR REFORM

7.1 Policyholders

7.1.1 Level of Current Tax Collections

No information is publicly available on the amount of revenue generated by the taxation of life insurance policyholders. The possible sources of revenue are the taxation of accrued income and the taxation of dispositions. Accrual taxation applies only to policies issued since December 1, 1982 and the vast majority of those policies are exempt. It seems likely that the major reason that the accrual rules apply to any life insurance policies at all is not to raise revenue but instead to prevent people from buying life insurance purely for the tax deferral and thereby protect the tax revenues generated by bonds, annuities, term deposits and the like.

The principal revenue source from life insurance policyholders is no doubt the taxation of dispositions such as policy loans, policy dividends and surrenders. Here again the revenue will be low, primarily because of the mismeasurement of the adjusted cost basis of a life insurance policy that applies to policies issued before December 2, 1982. As the new rules begin to affect more policies, revenues should rise.

The Department of Finance (1985) has estimated that the revenue cost of the current preferential tax treatment of investment income earned by life insurance policyholders was $290 million for the year 1983. It is apparent from the method used in estimating this figure (multiplying the investment income earned on reserves of life insurance companies by an assumed marginal tax rate) that the Department assumes that the current

tax system for life insurance policyholders collects very little revenue. In addition, the Department of Finance estimates that the non-taxation of employer-paid premiums for private health insurance and group life insurance cost $400 million in 1983. The portion of this attributable to life insurance is not disclosed.

7.1.2 Tighten the Definition of an Exempt Policy

One alternative is to avoid major reforms and simply make the exempt policy definition more strict in order to reduce the savings and tax deferral content of exempt policies. If policyholder tax changes are required, this is probably the best alternative, in light of the fact that major changes were enacted less than three years ago.

One possibility is to lengthen the minimum payment period from 20 years to 30 years. This would not affect many policies other than those which were specifically designed to obtain the maximum tax advantage possible under the current rules. Also, the 20-year requirement is not as strict as it first appears since certain policies which become paid-up in as little as 12 or 13 years can be exempt policies. The reason is that participating policies can create paid-up additions which are later surrendered to pay premiums.

Another possibility would be to increase the minimum interest rate that can be used in computing the accumulating fund of the exemption test policy from 4% to perhaps 5%. Interest rates will be much above 4% for the forseeable future and there appears to be no reason that interest rates of 5% could not be built into the pricing of premiums. Policy dividends would have to be reduced, of course, which would reduce the savings orientation and tax deferral.

Yet another possibility is to change the standard policy used in the exempt policy definition from an endowment policy maturing at age 85 to an endowment policy maturing at age 95 or 100. Since the purpose of the exempt policy definition is to exempt whole life policies and not the more savings-oriented endowment policies, there is reason to base the test on a policy which is closer to a true whole life policy.

7.1.3 A Corporate-Level tax on Earnings of Exempt Policies?

An obvious alternative to new taxes on policyholders is to apply a corporate-level tax as a proxy for taxes on policyholders. This was the intent of the Part XII tax that was in effect from 1969 to 1977. The tax could only apply to investment income earned by exempt policies, since the investment income earned on non-exempt policies is already subject to tax at the policyholder level. If the concept is to impose some sort of low-rate penalty for tax deferral, no refund of the tax would be necessary on later surrender of the policy. Such a tax is inherently arbitrary and inequitable as it takes no notice of the marginal tax rates of individual policyholders. However, it is a way to collect some tax on policies held until death and it could be an effective revenue-raiser. Also, it has some political appeal because individual policyholders are not directly taxed.

7.1.4 Changing the Tax Incentives for Group and Individual Term Insurance

As noted in Chapter 4, a second best argument can be made for subsidizing private life insurance to the extent that public welfare programs cause households to reduce their life insurance coverage. Browning and Johnson (1984) estimated that it costs between $3 and $9 to transfer $1 to low income households through the tax- transfer system. This suggests that public welfare programs may be less efficient than private insurance in making transfers to households that have suffered a loss of income due to the death of an income earner. Note also that expanding the tax subsidy for group and individual term life insurance may substantially reduce the demand for cash-value life insurance. (Recall that the regression analysis in Chapter 5 indicated that for every dollar of group coverage, cash-value coverage declined by about $0.80.) Thus the revenue cost of subsidizing group and individual term coverage may be offset to some extent by an increase in revenue from the diversion of funds from cash-value life insurance to other financial assets with higher tax rates. Clearly, the question of whether group and individual term life insurance should receive tax subsidies requires detailed analysis.

7.2 Life Insurance Companies

7.2.1 Level of Current Tax Collections

No public data exists to determine the amount of corporate income tax that life insurance companies are currently paying. The figures on financial statements and Department of Insurance reports for "provision for income taxes" are for worldwide taxes and include deferred income taxes as well as actual tax liabilities. Nevertheless, it is common knowledge in the life insurance community that many companies are paying little or no income taxes, including many of the large multinational companies, and this is in spite of showing substantial profits on financial statements.

In part this could be due to large investments in term-preferred shares, income bonds and income debentures. For instruments of this type issued before November 16, 1978, payments by the borrower are treated as non-taxable inter-corporate dividends rather than fully-taxable income. Probably this reason does not provide much of the explanation for the low tax collections since it is believed that life insurance companies do not have big investments in these instruments. It seems, therefore, that revisions of the tax law and/or administration are required.

7.2.2 A Federal Premium Tax?

As noted in Chapter 3, the federal government levied a tax on life insurance premiums for over ten years as part of agreements with the provinces in the 1940's and 1950's. The recent controversy over the imposition by Quebec of a premium tax as part of the provincial retail sales tax raises the question of whether it would be desirable for the federal government to re-enter the premium tax field. It is estimated that a 2% federal tax on life insurance premiums net of policy dividends would raise $62 million annually, and it would raise much more if it was extended to other types of insurance.

The advantages of a premium tax are evident. A premium tax is simple and cheap to administer. Its main requirement is the determination of each policyholder's country of residence at the time of issue (since the tax would not be imposed on foreign policyholders). A premium tax is also difficult to avoid or evade. Revenues would be more predictable. Unlike the corporate income tax, loopholes probably would not spring up every few years. In summary, a premium tax is a way of collecting some tax from an industry which traditionally pays very little tax to the federal government.

The disadvantages of a premium tax in policy terms are equally evident. It bears a striking similarity to to the much-hated Petroleum and Gas Revenue Tax which is now being phased out. The principal weakness of both taxes is that they are taxes on revenue and bear very little relation to ability to pay. As a result, a relatively-unprofitable smaller or newer company which derives much of its income from premiums rather than investments can be expected to have a larger relative tax burden than a larger company with more accumulated surplus.

The revenue collections from a premium tax depend on the transitional rules accompanying its introduction. The provincial taxes are mature taxes which have been in effect for many years. For a new tax, it is very important whether it applies to all policies regardless of issue date or whether it is restricted to policies issued after budget day. There would be strong pressures for the latter approach on the grounds that already-issued policies have no allowance in their pricing for the new tax and consequently the companies' profits would go down directly by the amount of the tax. This is true only for non-participating policies, however, since the policy dividends on participating policies could be reduced. In any event, if this argument is considered persuasive, revenue collections would take many years to rise to the mature level and the revenue raised in the first few years might not be worth the political cost of the protests accompanying its introduction.

A further problem with a federal premium tax arises from the existence of large Canadian multinational life insurers and retaliatory tax provisions in many U.S. states.[50] Many U.S. states base the premium tax on an insurer operating in the state on the premium tax rate prevailing in the insurer's home jurisdiction if it is higher than the state's own rate. Thus, if the federal government imposed a premium tax of 2% in addition to the 2% imposed by most of the provinces, many states in the U.S. would charge Canadian life insurers a 4% premium tax rate. The effect of both higher Canadian taxes and higher American taxes could be severe and could reduce the competitiveness of Canadian companies in the U.S. The existence of these retaliatory provisions apparently caused Ontario in 1978 to rescind its 1976 move to apply an additional 1% tax on the protection element of life insurance premiums. Newfoundland was able to raise its premium tax rate to 3% without fear of consequences because there are no Newfoundland-domiciled insurance companies.[51]

In light of these problems, a federal premium tax is probably not worthy of further consideration.

7.2.3 Improve Enforcement of Present Tax Rules

Since Revenue Canada has no actuaries on its permanent staff, it has delegated to the Department of Insurance the responsibility of ensuring that the policy reserves for tax purposes are as authorized by the Income Tax Act and associated regulations. However, since the main responsibility of the Department of Insurance is to ensure that the companies have reserves that are adequate for solvency purposes, a conflict of interest is created. Vigorous tax audits resulting in higher tax revenues may impair solvency in some cases. Also, the Department of Insurance is short-staffed for its solvency regulation function. Particularly in times when the solvency of financial institutions has such

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50 Retaliatory provisions are also included in the premium tax laws of Saskatchewan, Quebec and Ontario.

51 McDonald (1980).

a high public profile, the tendency is likely to be to devote little time and effort to its tax auditing duties. The proposal under consideration to merge the Inspector-General of Banks with the Department of Insurance seems likely to further reduce the priority of tax auditing.

Revenue Canada should consider dissolving its agreement with the Department of Insurance and hire its own staff to audit insurance companies'tax reserves. This might increase tax revenues or at least bring to light deficiencies in the tax law which adversely affect revenues.

7.2.4 Change the Method of Computing Policy Reserves

As discussed in Chapter 3, the prescribed method for calculating policy reserves was changed in 1977 from the net level premium method to the full preliminary term method. The purpose was to more strictly match the costs and revenue of a life insurance company and thereby to prevent tax deferral. The specific problem was the creation of a loss for tax purposes in the year a life insurance policy is issued. There is now some doubt that the 1977 change fully accomplished its purpose.

A loss is created if the income inclusion for first-year premiums received is less than the sum of the deductions in the first year for the policy reserve, policy exenses incurred and claims paid. The full preliminary term method produces no first-year policy reserve and therefore (assuming zero claims paid in the first year) it produces no loss unless policy expenses exceed the premium. However, the first-year commission alone can be as much as 150% of the premium for some companies. Thompson (1981) states that the cost of new business may exceed the first year's premium. It therefore seems appropriate that the government investigate the size of first-year commissions and other policy expenses in order to determine if a further change in the method of computing policy reserves is desirable.

7.2.5 Tax the World Income of Life Insurance Companies

As noted in Chapter 3, a life insurance company is taxable only on the income generated from the company's insurance business in Canada. This contrasts with other Canadian corporations which pay Canadian income tax on their worldwide income and receive a tax credit for any foreign income taxes paid. It is noteworthy that among the corporations taxed on this latter basis are some insurance companies, namely resident non-life insurance companies.

One rationale that has been offered for this departure from normal tax rules is that much life insurance business is of a participating nature and income from this business should be taxed only in the country in which the participating policyholders live. This argument applies particularly to mutual companies since in that case the company can be said to be a cooperative enterprise run for the policyholders' benefit.

Another rationale is that this special tax arrangement is necessary in order to retain the insurer's ability to compete in foreign markets. It is argued that this would be damaged if Canada taxed foreign profits that are distributed to foreign policyholders. Of course, this would occur only to the extent that foreign tax credits do not offset the Canadian tax liability on foreign profits, so this argument applies only where foreign tax credits are relatively small. It is argued that this could occur for profits earned in a country which taxes life insurance companies on the basis of premiums or investment revenue only.

A third rationale is that technical complexity would arise in calculating foreign tax credits for countries which have very different systems of taxation for life insurance corporations.[52]

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52 These arguments are derived from Knechtel (1980), Thompson (1980), and Department of Finance (1977).

It is beyond the scope of this paper to inquire into the tax systems applying to life insurance companies in other jurisdictions in order to assess the validity of these arguments. However, the available evidence does indicate that the present system for taxing multinational Canadian life insurance companies collects little revenue and therefore may be judged a failure.[53] The present system also seems to require frequent patch-up amendments to collect even that amount of revenue. Therefore the Government should undertake a study of this question in order to determine if feasible alternatives to the present system of Canadian taxation of multinational life insurers exist.

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53 Some indirect evidence that the revenue problem is due to the rules for multinational companies is provided by Aitken and Katoh (1985). Aitken and Katoh compare the Canadian and American tax systems in the tax liabilities they impose on companies without international operations and they conclude that for these companies the Canadian system collects more revenue.

Chapter 8

CONCLUSION

Life insurance is one of the most technically complex and politically sensitive areas of tax policy. In this paper, we have presented some of the basic issues and described the history of Canadian tax policy in this area. We have also analyzed the trend in life insurance coverage and computed the effective tax rate on life insurance under the personal income tax and the premium taxes. The way in which the King-Fullerton approach could be applied to the Canadian tax treatment of life insurance has also been described.

The key issue concerning the personal income tax is whether policy holders' income is taxed on an accrual basis. The failure to tax "exempt" policies on an accrual basis means that the interest income on life insurance policies which are terminated by surrender is taxed at no more than half of the standard tax rate. The failure to tax death benefits means that the expected tax rate on policies terminated by the death of the insured is no more than one quarter of the standard tax rate. Changes to the exemption test could reduce the amount of investment income permitted within an exempt policy. However, since the new tax rules have been in effect for less than five years, it may be desirable to delay changes until more experience with the new rules is available. In addition, there are unsettled questions concerning the appropriate tax treatment of group and term life insurance in so far as they are substitutes for public welfare programs.

The corporate tax system for life insurers is more likely the appropriate place for reform at this time. Corporate tax collections from life insurers are very low, especially for Canadian multinational companies. Consideration should be given to taxing life insurers on their world income with a credit for foreign income taxes paid. The present

system of taxing life insurers only on some proxy for their Canadian income may be hopelessly deficient and impossible to repair. Changes may also be required in the computation of policy reserves for tax purposes.

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